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Suplemento II

ACTA PEDIÁTRICA PORTUGUESA

Órgão da Sociedade Portuguesa de Pediatria

Revista de Medicina da Criança e do Adolescente

IV International Meeting on Neonatology

"Neonatal Intensive Care: Protection and Prevention"

XXXVII Meeting of the Portuguese Neonatal Society

Free Communications

Posters

Lisboa, Portugal

November 12-14, 2009

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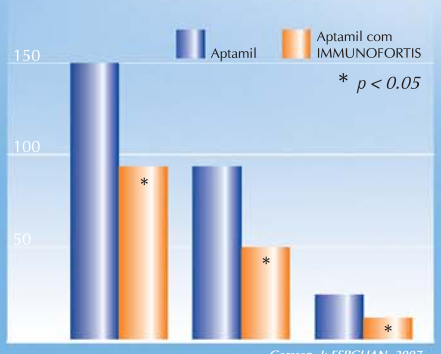
milupa

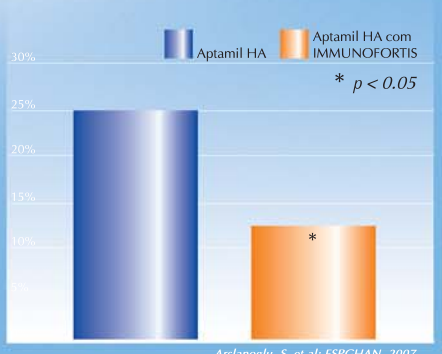
Aptamil

Número total de infecções, antibioticoterapia e otite média (aos 24 meses)



Garssen, J; ESPGHAN, 2007

Incidência cumulativa de dermatite atópica (aos 24 meses)



Arslanoglu, S. et al; ESPGHAN, 2007

com IMMUNOFORTIS, para reforçar naturalmente o sistema imunitário do seu bebé

Melhor, só o Leite Materno.

ACTA PEDIÁTRICA PORTUGUESA

Vol 39 Nº 6 Novembro – Dezembro 2009
Suplemento II

(Orgão Oficial da Sociedade Portuguesa de Pediatria)
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ACTA PEDIÁTRICA PORTUGUESA

IV International Meeting on Neonatology
"Neonatal Intensive Care: Protection and Prevention"
XXXVII Meeting of the Portuguese Neonatal Society

Lisboa, Portugal, November 12-14, 2009

Welcome Message

Dear Colleague,

The IV International Meeting on Neonatology and the XXXVII Meeting of the Portuguese Neonatal Society will be held at Lisbon from 12th to 14th November, 2009.

The meeting, entitled "Neonatatal Intensive Care: Protection and Prevention", is organised on behalf of the Union of European Neonatal and Perinatal Societies and is open to all those who are interested in the newborn infant.

The national and international academic experts from European countries and from the USA, will allow a high standard forum for sharing experiences and research across the world.

We are sure that the large number of oral and posters presentations shows the interest in this meeting and will be very important in the discussion.

The meeting will take place in the modern Lisbon, the place of Expo 98, close to the beautiful Tagus River, where you can enjoy a friendly atmosphere and a nice weather.

Therefore, I am pleased to invite you to attend the event.

Teresa Tomé
President of the Congress

Comissão Organizadora

Direcção da Secção de Neonatologia da Sociedade Portuguesa de Pediatria

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Executive Committee of the Portuguese Neonatal Society

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Portuguese College on Neonatology

Union of European Neonatal and Perinatal Societies (UENPS)

PROGRAM AT A GLANCE

12th November, 2009 (Thursday)

09:00-10:30h - **The first minutes after birth** (Room A)
Chairpersons: Carlos Moniz (Portugal), Almerinda Pereira (Portugal)
09:00-09:30h - Resuscitation of the preterm infant (Elisa Proença, Portugal)
09:30-10:00h - Choosing the right surfactant and the best timing (R. Ramanathan – U.S.A.)
10:00-10:30h - Discussion

10:30-11:45h - **Organizational aspects in a NICU** (Room A)
Chairpersons: Octávio Cunha (Portugal), Manuela Rodrigues (Portugal)
10:30-11:00h - Organization and management of NICU (E. Bell, USA)
11:00-11:30h - Monitoring the error (Maria João Lage, Portugal)
11:30-11:45h - Discussion

10:30-11:30h - **Free Communications – Session 1** (Room B)
Chairpersons: Constança Pinto (Portugal), Gonçalo Cassiano (Portugal)

11:45-12:15h - **Coffee-Break and Visit of the Exhibition**

12:15-13:15h - **Opening Ceremony**
UENPS: the present and the future (Hercília Guimarães, President of UENPS)

13:15-14:15h - **Lunch**

14:00-15:00h - **Poster Presentations – Session 1,2,3**
Chairpersons: Ricardo Costa (Portugal), Paula Soares (Portugal), Ana Rodrigues (Portugal)

15:00-17:00h - **Protection of preterm lung** (Room A)
Chairpersons: J. Pombeiro (Portugal), Rosalina Barroso (Portugal)
15:00-15:30h - Prenatal and postnatal steroids (Isabel Santos, Portugal)
15:30-16:00h - iNO in preterm infant (Manuel Sanchez Luna, Spain)
16:00-16:30h - Xantines and apnoea of prematurity (Christian Poets, Germany)
16:30-17:00h - Discussion

15:00-17:00h - **Parental support in Europe** (Room B)

17:00-17:30h - **Coffee-Break and Visit of the Exhibition**

17:30-19:00h - **Brain Protection** (Room A)
Chairpersons: Leonor Duarte (Portugal), André Graça (Portugal)
17:30-18:00h - Brain and cooling – where are we? (Marianne Thoresen, UK)
18:00-18:30h - Cerebral palsy in preterm infants: the role of oxidative stress (Giuseppe Buonocore, Italy)
18:30-19:00h - Discussion

17:30-18:30h - **Free Communications – Session 2** (Room B)
Chairpersons: Cristina Resende (Portugal), Mª José Castro (Portugal)

20:00h - **Dinner**

13th November, 2009 (Friday)

09:00-10:30h - **Nosocomial Infections** (Room A)
Chairpersons: Teresa Neto (Portugal), Helder Ornelas (Portugal)
09:00-09:30h - Infection control and surveillance in NICU (Peter Bartmann, Germany)
09:30-10:00h - Epidemiological surveillance of nosocomial infections in Neonatal Intensive Care Units (Alexandra Almeida, Portugal)
10:00-10:30h - Discussion

09:00-10:30h - **Free Communications – Session 3** (Room B)
Chairpersons: Filomena Pinto (Portugal), José Luís Nunes (Portugal)

10:30-11:00h - **Coffee-Break and Visit of the Exhibition**

11:00-12:00h - **Safe and sane oxygen use in NICU** (Room A)
(E. Bell, USA)
Chairperson: J. Castela (Portugal)

11:00-12:00h - **Poster Presentations – Session 4,5,6** (Room B)
Chairpersons: André Graça (Portugal), Pedro Silva (Portugal), Joana Saldanha (Portugal)

12:00-13:00h - **Satellite Symposium (sponsored by Orphan-Europe) Severe acute inborn errors of metabolism in the neonate** (Room A)
Chairperson: I. Tavares de Almeida (Portugal)
Marinus Duran (Netherlands)

ORPHAN EUROPE

13:00-15:00h - **Lunch**

14:00-15:00h - **Poster Presentations – Session 7,8,9,10**
Chairpersons: Teresa Vasconcelos (Portugal), Ana Cristina Braga (Portugal), Elsa Paulino (Portugal), Gonçalo Cassiano (Portugal)

15:00-16:00h - **Basic research guiding the clinical pratice** (Room A)
J. Correia Pinto
Chairperson: Maria José Costeira (Portugal)

15:00-16:00h - **Neonatal Nursing** (Room B)
Chairpersons: Grabriela Croft de Moura (Portugal), Luisa Amado Matos (Portugal)
- Do ambiente da UCIN às infecções Neonatais (Ligia Palma, Portugal), (Luisa Matos, Portugal)
- Grupo de ajuda mútua no apoio à parentalidade (Guilhermina Matos, Portugal), (Álvaro Lourenço Martins, Portugal), (Narcisa Reis Salvador, Portugal)
- O nascimento prematuro pela mira do pai (Ana Paula Santana, Portugal), (Paula Bordalo, Portugal)

16:30-17:00h - Discussão

16:00-17:00h - **Satellite Symposium (sponsored by Nestlé Nutrition Institute) Birth, environment and nutrition, the long-term impact** (Room A)
Chairperson: Teresa Tomé (Portugal)
Speakers:
- Catarina Roquette Durão – Nestlé Nutrition Institute (Portugal)

- Birth, environment and nutrition, the long-term impact
  José Saavedra (USA)

16:00-17:00h - **Free Communications – Session 4** (ROOM B)
Chairpersons: Fernanda Melo (Portugal), Elsa Paulino (Portugal)

17:00-17:30h - **Coffee-Break and Visit of the Exhibition**

17:30-18:30h - **Enteral nutrition in the NICU** (ROOM A)
Chairpersons: António Gomes (Portugal), Luís Pereira da Silva (Portugal)
- Enteral nutrition in VLBW infants
  (Israel Macedo, Portugal)
- Prokinetics for treatment of gastrointestinal dismotility
  (Susana Pissara, Portugal)
- Neonatal enteral feeding in GI insufficiency
  (Jose Savedra, USA)

18:30h - Discussion

19:00h - **Closing Remarks**
and Free Communications awards

14th November, 2009 (Saturday)

Satellite Courses

09:00-13:00h - Maternidade Dr. Alfredo da Costa

Course 1 - Practical aspects of neonatal ventilation (sponcered by Dragermedical)

Course 2 - Critical view of evidence-based perinatal medicine

Course 3 - Functional echocardiography

Free Communications

Thursday 12th, 10:30-11:30, Session 1 - Free Communications

FC01 - Echocardiography by telemedicine in the newborn.
Ana Margarida Costa[1]; Juan Calvino[1]; Marisa Sousa[1]; Graça Sousa[2]; Eurico Gaspar[1]; Eduardo Castela[2].
1-Serviço Pediatria, Hospital Vila Real; 2-Serviço Cardiologia Pediátrica, Hospital Pediátrico de Coimbra. Coimbra, Portugal.

FC02 - Ten years management of Patent Ductus Arteriosus in Neonate Intensive Care Unit of CHEDV-São Sebatião's Hospital.
Mónica Tavares[1]; Joana Monteiro[1]; Teresa Caldeira[1]; Professor Rui Carrapato[1].
1-Centro Hospitalar Entre Douro e Vouga – Hospital São Sebastião. Portugal.

FC03 - Use of central venous catheters in a neonatal unit and infection related to them.
João Neves[1]; Rui Pinto[2]; Anabela João[2].
1-Centro Hospitalar Gaia e Espinho, EPE; 2-Centro Hospitalar de Gaia e Espinho, EPE. Portugal.

FC04 - Catheter complications in the neonatal intensive care unit.
Teresa São Simão[1]; Manuel Oliveira[1]; Clara Paz Dias[1]; Bernarda Sampaio[1]; Joana Neves[1].
1-Serviço de Neonatologia do Centro Hospitalar do Alto Ave (C.H.A.A), Guimarães. Portugal.

FC05 - Normal values of oxygen saturation in the first 25 minutes of life.
Filipa Carlota Marques[1]; Andreia Mascarenhas[2]; Sara Silva[3]; Sofia Gouveia[4]; Maria Teresa Neto[5].
1-Neonatal Unit and Obstetrical Service, Hospital Dona Estefânia, Centro Hospitalar de Lisboa Central, EPE. Faculdade de Ciências Médicas, Universidade Nova de Lisboa. Resident of Paediatrics Hospital São Francisco Xavier, Lisboa; 2-Resident of Paediatrics Hospital Dona Estefânia, Lisboa; 3-Resident of Paediatrics Hospital Dona Estefânia, Lisboa; 4-Resident of Paediatric Cardiology, Hospital Santa Marta, Lisboa; 5-Neonatologist, Hospital Dona Estefânia, Prof. of Paediatrics, Faculdade de Ciências Médicas, Universidade Nova de Lisboa. Portugal.

FC06 - Dopamine therapy - is it good or bad for cerebral blood flow in VLBW infants?
Aspazija Sofijanova[1]; Aleksandar Sajkovski[1]; Dushko Fidanovski[1]; Antonio Hristovski[1]; Ljiljana Koic[1]; Silvana Naunova[1]; Simonida Spasevska[1]; Radica Muratovska[1].
1- Department of Neonatal Intensive Care, University Children's Hospital, Skopje, Macedonia.

Thursday 12th, 17:30-18:30, Session 2 - Free Communications

FC07 - Braga Hospital neonatal intensive care unit (NICU) and other NICUs of the INSA-RIOS platform.
Sandra Costa[1]; Maria João Magalhães[1]; Albina Silva[2]; Carla Sá[2]; Eduarda Abreu[2]; Bernardete Fernandes[2]; Matos Marques[2]; Almerinda Pereira[2,3].
1-Paediatrics resident, Braga Hospital, Braga; 2-Neonatology consultant, Braga Hospital, Braga; 3-Paediatric Department Director, Braga Hospital, Braga. Portugal.

FC08 - Necrotizing enterocolitis – a study of four cohorts.
Pedro Garcia[1]; Maria Teresa Neto[1]; Paolo Casella[2]; Micaela Serelha[1].
1-Neonatal Intensive Care Unit, Hospital de Dona Estefânia, Centro Hospitalar de Lisboa Central, EPE; 2- Paediatric Surgery Service, Hospital de Dona Estefânia, Centro Hospitalar de Lisboa Central, EPE. Lisbon, Portugal.

FC09 - Incidence and outcome of necrotizing enterocolitics in a neonatal intensive care unit.
Fani Anatolitou[1]; Eleni Apostolou[1]; Katerina Naoum[1]; Helena Bouza[1]; Marina Anagnostakou[1].
1- B. Nicu "Agia Sofia" Children Hospital, Athens, Greece.

FC10 - Necrotizing enterocolitis: case series of 14 years.
Alexandra Paúl[1]; Sofia Ferreira[1]; Cristina Resende[1]; Dolores Faria[1].
1 – Neonatal Intensive Care Unit, Bissaya Barreto Maternity Hospital, Coimbra, Portugal.

FC11 - Universal Newborn Hearing Screening: data from three years of experience.
Manuel Oliveira[1]; Alice Freitas[1]; Alexandre Mexedo[2]; Nuno Lousan[3]; Sérgio Caselhos[3]; Fausto Fernandes[3].
1-Neonatal Intensive Care Unit (NICU) - CHAA Guimarães; 2-Department of Otorhinolaryngology - CHAA Guimarães; 3-Department of Otorhinolaryngology - CHAA Guimarães. Portugal.

FC12 - Candidemia in very low birth weight infants: two years review.
Teresa Andrade[1]; Fátima Camba[2]; M.C. Céspedes Dominguez[2].
1-Pediatric Department, Unidade Local Saúde Alto Minho, Viana do Castelo, Portugal; 2-Neonatal Intensive Care Unit, Vall D`Hebron Hospital, Barcelona, Spain.

Friday 13th, 09:00-10:30, Session 3 - Free Communications

FC13 - Change in clinical practice resulting in less patient harm: lessons learned from risk assessment and incident reporting in the NICU.
Maria João Lage[1]; Cristina Friaças[1]; Micaela Serelha[1].
1-Neonatal Intensive Care Unit - Hospital de Dona Estefânia. Lisbon, Portugal.

FC14 - Very low birth weight newborns - survival without major morbidities.
Cláudia de Almeida Fernandes[1]; Sónia Antunes[2]; Catarina Dâmaso[3]; Israel Macedo[4]; Manuela Santos[4]; Filomena Pinto[4]; Teresa Tomé[5].

1-Centro Hospitalar de Setúbal EPE; 2-Hospital do Espírito Santo, Évora EPE; 3-Hospital Reynaldo dos Santos, Vila Franca Xira; 4-Maternidade Dr. Alfredo da Costa; 5-Directora Serviço Pediatria Maternidade Dr. Alfredo da Costa. Lisbon, Portugal.

FC15 - Morbimortality among very low birth weight infants: casuistic of a neonatal intensive care unit.
Marcos António da Silva Cristovam[1]; João Pedro Pontes Câmara[2]; Ana Cláudia Lopes Plewka[2]; Henrique Seki[2]; Lara Franken Ciupak[2]; Fernando Alves Konrad[2]; Milene Moraes Sedrez Rover[2].
1-Hospital Bom Jesus-Toledo-PR-Brasil; 2-Hospital Bom Jesus. Brazil.

FC16 - Use of erythropoietin in the premature and retinopathy of prematurity - is there any relation?
Liliana de Oliveira Duarte Rocha[1]; Daniela Pio[2]; Simão Frutuoso[3]; Pedro Menéres[4]; Paula Fernandes[5]; Dulce Oliveira[3].
1-Serviço de Pediatria, Centro Hospitalar do Porto - Unidade Hospital de Santo António; 2-Serviço de Pediatria, Hospital Infante Dom Pedro; 3-Serviço de Cuidados Intensivos Neonatais e Pediátricos, Centro Hospitalar do Porto - Unidade Hospital de Santo António; 4-Serviço de Oftalmologia, Centro Hospitalar do Porto - Unidade Hospital de Santo António; 5-Directora do Serviço de Cuidados Intensivos Neonatais e Pediátricos, Centro Hospitalar do Porto - Unidade Hospital de Santo António. Portugal.

FC17 - Which variables influence the neurodevelopment outcome of the very low birth weight newborns?
Clara Marecos[1]; Ana Cadete[2]; Alexandra Oliveira[2]; Helena Figueiredo[2]; Manuel Cunha[3].
1-Departamento de Pediatria, Hospital Professor Dr. Fernando Fonseca, EPE, Amadora; 2- Departamento de Medicina Física e Reabilitação, Hospital Professor Dr. Fernando Fonseca, EPE, Amadora; 3-Departamento de Pediatria, Hospital Professor Dr. Fernando Fonseca, EPE, Amadora. Portugal.

FC18 - Positional plagiocephaly in preterm infants.
Ana Melo[1]; Edward Bell[2].
1-Hospital de Santarém, Portugal; 2-University of Iowa Children's Hospital, USA.

FC19 - Diagnosis and cause of death in a NICU - how important is autopsy?
Sandra Costa[1]; M. Rodrigues[1]; O. Brandão[1]; A. Martins[1]; A. Vilan[1]; H. Guimarães[1].
1-Hospital S. João. Porto, Portugal.

FC20 - Impact of maternal FT4 and iodine levels on progeny's development.
Maria José Costeira[1]; Pedro Oliveira[2]; Susana Ares[3]; Belen Saenz-Rico[4]; Gabriella Morreale de Escobar[3]; Joana A. Palha[5].
1-Serviço de Neonatologia, CHAA, EPE, Guimarães; 2-Department of Production & Systems Engineering, University of Minho, Braga; 3-Instituto de Investigaciones Biomédicas Alberto Sols, Centro Mixto Consejo Superior de Investigaciones Científicas-Universidad Autónoma de Madrid; 4-Facultad de Educación-Departamento de Didática y Organización Escolar, Universidad Complutense, Madrid; 5-Life and Health Sciences Research Institute (ICVS), School of Health Sciences, University of Minho, Braga. Portugal.

FC21 - Iodine status of pregnant women and their progeny in the Minho region of Portugal.
Maria José Costeira[1]; Pedro Oliveira[2]; Susana Ares[3]; Gabriella Morreale de Escobar[4]; Joana A. Palha[5].
1-Serviço de Neonatologia, CHAA, EPE, Guimarães; 2-Department of Production & Systems Engineering, University of Minho, Braga; 3-Instituto de Investigaciones Biomédicas Alberto Sols, Centro Mixto Consejo Superior de Investigaciones Científicas-Universidad Autónoma de Madrid; 4-Instituto de Investigaciones Biomédicas Alberto Sols, Centro Mixto Consejo Superior de Investigaciones Científicas-Universidad Autónoma de Madrid; 5-Life and Health Sciences Research Institute (ICVS), School of Health Sciences, University of Minho, Braga. Portugal.

Friday 13th, 16:00-17:00, Session 4 - Free Communications

FC22 - Correlation of the weight, serum levels of sodium and potassium in newborns with high risk of bronchopulmonary dysplasia.
Peter Krcho[1]; Katarína Vilčeková[1]; Viktória Hudáková[1]; Zuzana Gajdošová[1].
1- Neonatal Intensive Care Unit, Neonatal Clinic, Medical Faculty and Pediatric Faculty Hospital, Košice, Slovakia.

FC23 - Impact of conventional ventilation versus early high frequency oscillation on serum IL-6 and CC16 levels in ventilated preterm neonates.
Kosmas Sarafidis[1]; Theodora Stathopoulou[1]; Eleni Agakidou[1]; Anna Taparkou[2]; Elisavet Diamanti[1]; Vasiliki Soubasi[1]; Vasiliki Drossou[1].
1-11st Dept. of Neonatology and 21st Dept. of Pediatrics of Aristotle University of Thessaloniki, "Hippokration" General Hospital, Thessaloniki, Greece.

FC24 - Risk factors for pneumothorax in very low birth weight (VLBW) infants.
Rita Calado[1]; Cláudia Fernandes[2]; Ana Fernandes[1]; Israel Macedo[3]; Ana Bettencourt[4]; Teresa Tomé[4].
1-Hospital do Espírito Santo, Évora EPE; 2-Centro Hospitalar de Setúbal EPE; 3-Maternidade Dr. Alfredo da Costa; 4-Directora do Serviço de Pediatria Maternidade Dr. Alfredo da Costa. Portugal.

FC25 - Bolus vs continuous feeding in preterm infants less than 1500g.
Marta Moniz[1]; Raquel Maia[1]; Manuel Cunha[1]; Elsa Paulino[1]; Rosalina Barroso[1].
1-Neonatal Intensive Care Unit, Paediatrics Department, Hospital Professor Dr. Fernando Fonseca EPE. Amadora, Portugal.

FC26 - Breastfeeding among very preterm and very low birthweight in a neonatal intensive care unit.
Sofia A. A. Ferreira[1]; Alexandra Paul[1]; Adelaide Taborda[1].
1-Maternidade Bissaya Barreto. Coimbra, Portugal.

FC27 - Melatonin rhythm in saliva of newborn infants.
Soyhan Bagci[1]; Andreas Mueller[1]; Jochen Reinsberg[2]; Peter Bartmann[1]; Axel R. Franz[1].
1-Department of Neonatology, Children's Hospital, University of Bonn, Bonn D-53113, Germany; 2-Department of Gynecological Endocrinology, University of Bonn, Bonn D-53113, Germany.

FREE COMMUNICATIONS

FC01 - Echocardiography by telemedicine in the newborn.

Ana Margarida Costa[1]; Juan Calvino[1]; Marisa Sousa[1]; Graça Sousa[2]; Eurico Gaspar[1]; Eduardo Castela[2].
1-Serviço Pediatria, Hospital Vila Real; 2-Serviço Cardiologia Pediátrica, Hospital Pediátrico de Coimbra. Coimbra, Portugal.

Introduction: The Echocardiography by telemedicine (EcoTM) between the Department of Pediatrics of the *Hospital de Vila Real* and the Pediatric Cardiology Service of the *Hospital Pediátrico de Coimbra* began in October 2005. The congenital heart malformations are the most frequent congenital malformation (8 / 1000 live births). ***Objective:*** Characterize the newborns (NB) who underwent EcoTM. ***Methods:*** The reports of EcoTM conducted between October 1, 2005 and August 31, 2009 were reviewed. ***Results:*** During this period, 935 EcoTM's were done, and 128 (13.4%) of these exams were performed on 115 NB patients (1.65% of our live NB). Male patients predominated (54%). EcoTM was performed before discharge from the maternity in 29.7% and during the first week of life in 50% of the patients. In 10 cases, EcoTM was performed with urgency. The most frequent motives for performing the exam were: asymptomatic heart murmur (70.3%), pervious abnormal EcoTM (9.4%), malformations (6.3%) and hypoxia (3.1%). The main diagnoses were: ventricular septal defect (VSD) (31.3%), restrictive inter-auricular communication with left-right shunt (25.8%), ductus arteriosus (7%). 26.6% of the exams were normal. Most infants (71%) were referred again to repeat EcoTM and 24% were discharged after their first exam. 6 infants were transferred to Pediatric Cardiology with the following diagnosis: simple transposition of greater arteries (2 cases), single ventricle (deceased), malformation of the aortic arch, coarctation of the aorta and large sub-aortic VSD with heart failure. ***Discussion:*** The cardiac symptoms or signs in newborns are associated more frequently to cardiac disease than in other periods of life; due to this fact, a more accurate diagnosis and better attendance with EcoTM is possible. The EcoTM scheduled before discharge or during the first month of life in NB with asymptomatic murmur allows us to make n earlier and a pre-symptomatic diagnosis of heart disease. The possibility of doing an EcoTM urgently allows a rapid and accurate diagnosis, identifying NB with critical heart disease requiring immediate transfer to a tertiary center.

Key-words: Echocardiography, telemedicine.

FC02 - Ten years management of Patent Ductus Arteriosus in Neonate Intensive Care Unit of CHEDV-São Sebatião's Hospital.

Mónica Tavares[1]; Joana Monteiro[1]; Teresa Caldeira[1]; Professor Rui Carrapato[1].
1-Centro Hospitalar Entre Douro e Vouga – Hospital São Sebastião. Portugal.

Introduction: Patent ductus arteriosus (PDA) is often casualty related to bronchopulmonary dysplasia (BPD) in preterm infants (PT). There is no consensus in its management due to the high rate of spontaneous closure and the potential risks inherent to treatment. ***Objective:*** Evaluation of the various therapies' available for PDA closure over 10 years' period and their relationship to BPD. ***Methods:*** Retrospectively files analyzes of inborn infants with ≤ 32 weeks of gestational age (GA) with clinical or ultrasound diagnosis of PDA. ***Results:*** In these cohort the median birth weight (BW) and GA was 890g (interquartile range - IQR 755-922.5 g) and 26 weeks (IQR 24.5-29weeks), respectively. The overall incidence of PDA was 18.8% (45/239) whilst in those with less than 28 weeks the incidence rose to 35.3%. Spontaneous closure occurred in 51 (23%) of patients, corresponding to the heavier and more advanced gestational age (1119g vs. 850, 9 and 27,6 vs. 26 weeks). Medical/surgical closure was undertaken in 22 patients (49%): indomethacin in 13 (59%), ibuprofen in 6 (27.3%) and 8 (32%) by surgical ligation. On average, indomethacin was started considerably latter than ibuprofen (12,38 and 3,17 days, respectively). Surgical ligation, as a rescue treatment, varied greatly. The incidence of DBP was significantly higher in patients undergoing therapy ($p<0.05$) and significantly influenced by its latest onset ($p<0.05$). ***Discussion:*** Spontaneous closure of PDA in bigger infants questions the need for intervention in this group. On the other hand, the possible relationship between DBP and PDA in smaller gestational age group, associated with the late onset of treatment, begs the question when and how to treat. Only prospective controlled studies can elucidate this issue.

Key-words: Management, Patent ductus arteriosus.

FC03 - Use of central venous catheters in a neonatal unit and infection related to them.

João Neves[1]; Rui Pinto[2]; Anabela João[2].
1-Centro Hospitalar Gaia e Espinho, EPE; 2-Centro Hospitalar de Gaia e Espinho, EPE. Portugal.

Introduction: The option of venous catheterization type depends on the needs and the estimated duration. Sepsis is the major complication from using central venous catheters (CVC), with infection rates up to 46%. ***Objective:*** Description of neonates which required CVC, infection rate associated with it. ***Methods:*** Retrospective study, consulted neonatal database of newborns admitted to the neonatal unit and received a CVC from January 2003 to December 2008. Defined sepsis related to CVC when there was use of it in the 48 hours prior to the onset of sepsis. ***Results:*** 270 newborns required a CVC, of these, 231 did not need surgery. This subgroup was selected for study: 55.4% male; mean gestational age 31 weeks. Average birth weight 1646g. Average length of stay of 30 days, recorded a total of 7002 days of hospitalization. An umbilical venous catheter (UVC) was placed in 114, with an average duration of 4 days, totaling 444 days of exposure to the UVC. 161 catheters were inserted percutaneously with an average duration of 13 days, amounting 2093 days of exposure. A total of 63 sepsis related to CVC were documented in 58 infants, incidence of 27.2%. Blood cultures were negative in 28.5%. When positive the most frequently isolated were: *Staphylococcus epidermidis* (27.0%), *Klebsiella pneumoniae* (12.7%) and other coagulase negative *Staphylococcus* (7.9%). The rate of catheter-related sepsis was 24.8 / 1000 CVC days and use rate of CVC 36.2. ***Discussion:*** The incidence of sepsis, its etiology and the rate of CVC-related sepsis are comparable as other studies. The presumption of sepsis by the criteria used may have overestimated the results. ***Conclusion:*** The real need of a CVC should be consider because of the risk of sepsis. It is important also the timing for its removal that should be as soon as it is not needed.

Key-words: Central venous access, sepsis.

FC04 - Catheter complications in the neonatal intensive care unit.

Teresa São Simão[1]; Manuel Oliveira[1]; Clara Paz Dias[1]; Bernarda Sampaio[1]; Joana Neves[1].
1-Serviço de Neonatologia do Centro Hospitalar do Alto Ave (C.H.A.A), Guimarães. Portugal.

Objectives: Insertion of intravascular catheters (IC) is a common procedure performed in neonatal intensive care units (NICUs). Despite their many valuable applications, the use of intravascular catheters carries many risks. The aim of this study was to investigate and estimate the frequency of complications of IC in NICU of C.H.A.A. ***Methods:*** A retrospective descriptive study was performed, the authors reviewed the clinical files of all neonates admitted to the NICU, between January 2003 and May 2009, and collected the data of those with IC and described related complications. ***Results:*** There were evaluated a total of 2900 NICU admissions, 464 IC (204 peripherally inserted central catheters; 132 umbilical vein catheters and 128 umbilical artery catheters) were inserted in 291 patients (141 female and 150 male). The mean birth weight was 1600 gr (146 were VLBW) and the mean gestational age was 30,5 weeks. Sixty one catheter contaminations (staphylococcus epidermidis was the most common agent), 10 nosocomial infections associated with catheters and 6 tromboembolic events (3 phlebitis and 3 vasospasms - all of them resolved promptly after catheter remotion) were reported. Cardiac tamponade occurred in two patients and resolved with pericardiocentesis. There was a case of cardiac arrhythmia that reverted after catheter replacement. ***Conclusions:*** The frequency of complications encountered appeared to be comparable to previously report occurrences. Cardiac tamponade and arrhythmia were rare complications. The authors didn't found any report of ascites, pleural effusion, trombotic events and removal difficulties. Despite of high number of IC inserted there was a relatively low number of complications. The authors would like to reinforce the need of clinical awareness and radiographic control of the position of the tip of IC in order to prevent IC related complications.

Key-words: Complications of intravascular catheters.

FC05 - Normal values of oxygen saturation in the first 25 minutes of life.

Filipa Carlota Marques[1]; Andreia Mascarenhas[2]; Sara Silva[3]; Sofia Gouveia[4]; Maria Teresa Neto[5].
1-Neonatal Unit and Obstetrical Service, Hospital Dona Estefânia, Centro Hospitalar de Lisboa Central, EPE. Faculdade de Ciências Médicas, Universidade Nova de Lisboa. Resident of Paediatrics Hospital São Francisco Xavier, Lisboa; 2-Resident of Paediatrics Hospital Dona Estefânia, Lisboa; 3-Resident of Paediatrics Hospital Dona Estefânia, Lisboa; 4-Resident of Paediatric Cardiology, Hospital Santa Marta, Lisboa; 5-Neonatologist, Hospital Dona Estefânia, Prof. of Paediatrics, Faculdade de Ciências Médicas, Universidade Nova de Lisboa.

Background: Use of oxygen (O2) in the delivery room has been subject for controversy. Its use is due in part to the non-knowledge of the normal O2 saturation during the first minutes of extra uterine life. ***Objective:*** To assess the normal values of O2 saturation during the first minutes of life. ***Methods:*** Prospective, observational, cohorts study. Two investigators, not caring for the newborn, collected data. Verbal consent was requested to parents. A Signal Extraction Pulse Oxymeter Radical from Masimo was used. The sensor was applied on the neonate's right hand. Results were collected immediately after birth (hour of birth defined as the time of cord clamping) and registered sequentially during the first 25 minutes of life. ***Population:*** Inclusion criteria: term and preterm healthy newborn infants not needing resuscitation. Exclusion criteria: newborn infants submitted to resuscitation; those with congenital cardiopathy, persistent pulmonary hypertension, RDS, wet lung or other diseases interfering with gas exchange. ***Results:*** Eighty newborn infants were enrolled. Median (Minimum-Maximum) gestational age and birth weight were respectively 39 weeks (33-41) and 3303g (1516-4085); 36% were born by vaginal delivery, 35% by vacuum extraction or forceps, 29% by caesarean section; 94% of mothers had epidural analgesia. Minute of life Median (interquartil) SpO2 values: 1 78% (67 - 84); 2 74% (65 - 84); 3 80% (70 - 88); 4 82% (74 - 92); 5 89% (77 - 95); 10 95% (88 - 98); 15 97% (94 - 99); 20 98% (95 - 100); 25 98% (94 - 100). Values of 90% and 95% were surpassed respectively by 7.5 and 15.5 minutes. There was no significant difference on saturation values between infants born by vaginal delivery or caesarean section. ***Conclusion:*** In the transition to the extra uterine life low levels of SpO2 have to be considered as normal. This should be remembered when O2 is used in the delivery room.

Key-words: Delivery room, newborn, oxygen saturation, pulse oxymetry

FC06 - Dopamine therapy - is it good or bad for cerebral blood flow in VLBW infants?

Aspazija Sofijanova[1]; Aleksandar Sajkovski[1]; Dushko Fidanovski[1]; Antonio Hristovski[1]; Ljiljana Koic[1]; Silvana Naunova[1]; Simonida Spasevska[1]; Radica Muratovska[1].
1- Department of Neonatal Intensive Care, University Children's Hospital, Skopje, Macedonia.

Objective: Cerebral blood flow (CBF) is positively correlated with arterial pressure (AP), but there is always a debate whether CBF in very low birth weight infants (VLBW) is pressure-passive vs. positively correlated with AP. Therefore we've examined the correlation of CBF with AP in VLBW preemies in the first 24h after birth, and accordingly we've evaluated CBF auto-regulation in hypotensive infants receiving dopamine. ***Method:*** 20 infants (mean GA: 31±2 GW, mean BW: 1200±200 gr.) were studied over the first 24h after birth. AP was monitored with non-invasive "Agilent" monitor-neonatal series. Dopamine infusion was administered at initial dose of 10mcg/kg/min. The data was analyzed into three groups. Group-1 (N=13) comprised of infants with developing hypotension (CBF measured prior to dopamine infusion), Group-2 (N=13) were infants from Group-1 after they were started on dopamine infusion and Group-3 (N=7) infants (control group). ***Results:*** Infants in Group-1 have lower AP (t-test, $p<0.01$) than infants in Group-3. During dopamine therapy (Group-2) AP was intermediate between the levels of Group-1 and 3. A significant correlation was found in Group-1($r=0.74$, $p< 0.05$), and highly significant in Group-2. By contrast, no AP correlation existed in Group-3 ($r= -0.20$, $p>0.05$). There was no significant correlation of AP with time from birth in Group-1 and 3, but AP increased significantly with time during dopamine therapy (Group-2: $r= 0.85$, $p< 0.02$). Table_1. Average values for AP in VLBW preemies over first 24h-Arterial pressure - Group-1 23.5±0.90 (22-30); Group-2 26.3±1.89 (22-38); Group-3 38.9±2.27 (30.1-48). ***Conclusion:*** We've concluded that significant correlation between APs in hypotensive VLBW preemies prior to commencing IT signifies pressure-passive cerebral circulation without auto-regula-

tory capacity. AP is increased by dopamine infusion and concurrently the CBF. CBF remains correlated with AP as it is increased by dopamine infusion and so the pressure-passive circulation in these infants persists as BP is restored by IT.

Key-words: AP, CBF, inotropic therapy, VLBW infants.

FC07 - Braga Hospital neonatal intensive care unit (NICU) and other NICUs of the INSA-RIOS platform.

Sandra Costa[1]; Maria João Magalhães[1]; Albina Silva[2]; Carla Sá[2]; Eduarda Abreu[2]; Bernardete Fernandes[2]; Matos Marques[2]; Almerinda Pereira[2,3].
1-Paediatrics resident, Braga Hospital, Braga; 2-Neonatology consultant, Braga Hospital, Braga; 3-Paediatric Department Director, Braga Hospital, Braga. Portugal.

Background: The NICU aims is to provide care to premature or sick newborns (NB). ***Objective:*** Characterization of patients admitted to Braga Hospital (BH)´s NICU and those of the other NICUs in the platform INSA-RIOS. Analysis of gestational age(GA), birth weight(BW), average days of hospital admission, invasive mechanical ventilation(IMV), duration of IMV and mortality rate. ***Material and Methods:*** Observational cross-sectional descriptive study, analysis of NB`s processes admitted to BH`s NICU from 01/01 to 31/12/2008 and its relation with data entered in the National Surveillance Infection Program. ***Results:*** 45%(68/151) of NB in the BH`s NICU were preterm with median GA of 33 weeks (W), and 67.3%(1574/2340) NB with a median GA 33W in the other NICUs. At BH 37.7 %(57/151) NB were low birth weight (LBWNB) and 13.2%(20/151) very low birth weight NB (VLBWNB), compared to 63.5%(1486/2340) LBWNB and 28.1%(658/2340) VLBWNB at other NICUs. In VLBWNB, at BH, the median GA was 29W and the median BW 985g compared to 29W GA and 1140g BW in other NICU. In VLBWNB, at BH, 11/20 had BW <1000g and 9/20 between 1000-1499g, and in the other NICUs 236/658 had BW<1000g and 422/658 between 1000-1499g. The average hospital stay in BH was 5.7 days vs 10.0 days in the other NICU. 22.5% of NB (34/151) needed IMV during 3.6 days at BH, compared to 31.9%(747/2340) during 8.2 days at other NICU; The mortality rate at BH was 0% and at the other NICU, 0.5%. ***Conclusion:*** At BH the percentage of premature NB is smaller than in the other NICUs of INSA-RIOS platform but the median GA is the same: 33W. The percentage of LBWNB and VLBWNB of the admitted NB is smaller than in other NICUs and so the need of IMV, days of IMV and days of hospital stay. The mortality rate at BH was 0%.

Key-words: LBWNB, NICU, Premature, VLBWNB.

FC08 - Necrotizing enterocolitis – a study of four cohorts.

Pedro Garcia[1]; Maria Teresa Neto[1]; Paolo Casella[2]; Micaela Serelha[1].
1-Neonatal Intensive Care Unit, Hospital de Dona Estefânia, Centro Hospitalar de Lisboa Central, EPE; 2- Paediatric Surgery Service, Hospital de Dona Estefânia, Centro Hospitalar de Lisboa Central, EPE. Lisbon, Portugal.

Background: Necrotizing enterocolitis (NEC) is the most frequent and severe acquired surgical condition in the neonatal period. Case volume may improve outcomes due to the experience of multidisciplinary teams in surgical centres. ***Aim:*** to assess outcomes of NEC in a tertiary referral neonatal intensive care unit. ***Methods and Patients:*** Observational study, historical cohorts. Four cohorts of patients were enrolled during 17 years, divided in 4 periods: 1990-1994 (A), 1997-2000 (B), 2001-2004 (C) and 2005-2008 (D). Data were gathered from published paper (Group A), free communications (Groups B and C) and newly studied (Group D). Patients with NEC grade I were excluded (n=50). Gestacional age (GA), birth weight (BW), birth place, Bell modified classification stages, surgical intervention, length of stay (LOS), mortality, lethality and sequelae were studied. ***Results:*** Table

NEC – UCIN HDE	A (1990-1994)	B (1997-2000)	C (2001-2004)	D (2005-2008)	Total
Number	17	25	24	29	**95**
GA (median, limits)	35 (30-41)	30 (23-40)	30 (24-37)	28 (24-40)	
BW (median, limits)	2045 (800-4200)	1203 (612-3919)	1045 (519-3350)	1030 (424-3060)	
BW <1500g	6	14	15	18	**53 (55.8%)**
BW <1000g	4	10	10	12	**36**
Inborn/out born	7/10	0/25	6/18	2/27	**15/80**
Bell's class (II/III)	4/13	4/21	9/15	4/25	**21/74**
Operated on	11 (64.7%)	22 (81.5%)	15 (62.5%)	25 (86.2%)	**73 (77.9%)**
Segmental resection, ostomy	11 (91.6%)	17 (77.3%)	12 (80%)	18 (72%)	**58 (61.1%)**
Segmental resection, primary anastomosis	0	2	0	4	**6**
Peritoneal drain	0	2	2	2	**6**
Peritoneal drain, secondary laparotomy	1	1	1	1	**4**
LOS in UCIN (days) median	29.5 (1-83)	20 (1-197)	49 (1-140)	81.5 (2-157)	
Mortality rate	5/17 (29.4%)	10/27 (37%)	8/24 (33.3%)	5/29 (17.2%)	**28/95 (29.5%)**
Lethality	4/17 (23.5%)	4/25 (16%)	3/24 (12.5%)	2/29 (6.9%)	**13/95 (13.7%)**
Complications/Sequela (post NEO stenosis) (short gut)	1/0	0/0	24/3	9/6	**43 (45.3%)**

Conclusions: Mortality and lethality rates have decreased during the 17 years period. As a consequence higher rates of complications and sequelae were found. These findings ascertain the severity of the disease.

Key Words: Necrotizing enterocolitis, newborn, lethality.

FC09 - Incidence and outcome of necrotizing enterocolitics in a neonatal intensive care unit.

Fani Anatolitou[1]; Eleni Apostolou[1]; Katerina Naoum[1]; Helena Bouza[1]; Marina Anagnostakou[1].
1- B. Nicu "Agia Sofia" Children Hospital, Athens, Greece.

Introduction: NEC is the most frequent gastrointestinal neonatal problem related to serious morbidity and mortality in the NICU. Prematurity is considered the most important causative factor. ***Purpose:*** To study the incidence of NEC in our department during a two-year period. ***Materials and Methods:*** Neonates with definite NEC were included in this study over a two-year period. They were divided into three groups according to their gestational age (GA): Group A, (GA<32 w); Group B, (GA 32-37 w); Group C, (GA >37 w). ***Results:*** In the group A (n= 6), the age at onset of disease was 10.33 ± 6.28 days. The clinical situation was serious associated with abdominal distension, grossly bloody stools. Increased C-reactive protein, leukocytosis, thrombocytopenia were present. All neonates sustained operation. Mortality was high (33%). In the other two groups (B, n=12; C, n=2), the age at onset was 5.07± 3.85 days. The main clinical symptoms were abdominal distension, grossly bloody stools (12 out of 14), bi-

lious emesis (4 out of 14). Laboratory studies were moderately deteriorated in some neonates (9 out of 14). Feeding was initiated at 1.74 ± 0,825 days (maternal milk was given in one neonate). 8 out of 14 neonates were operated on. Mortality rate was 0%. ***Conclusions:*** NEC occurs in both premature and full term neonates. However, is more serious in the premature population related probably to its gastrointestinal tract immaturity. Apparently more mature neonates have better prognosis.

Key-words: necrotizing enterocolitics, outcome.

FC10 - Necrotizing enterocolitis: case series of 14 years.

Alexandra Paúl[1]; Sofia Ferreira[1]; Cristina Resende[1]; Dolores Faria[1].
1 – Neonatal Intensive Care Unit, Bissaya Barreto Maternity Hospital, Coimbra, Portugal.

Objective: to evaluate the prevalence, epidemiology, risk factors and clinical outcomes of newborns admitted at the Neonatal Intensive Care Unit (NICU) of Bissaya Barreto Maternity Hospital with necrotizing enterocolitis (NEC), over a period of 14 years. ***Methods:*** Review of newborns' charts with NEC admitted to the level III unit, from 1 January 1995 to 31 December 2008. The results were compared with literature reports. ***Results:*** Thirty nine patients were diagnosed with NEC, accounting for 0.08% of births, 1.01% of NICU admissions, 4.2% of very low birth weight (VLBW) and 9.5% of extremely low birth weight (ELBW) infants. Thirty eight (97.4%) were preterm and 85% had < 32 weeks of gestacional age (GA). Birth weight and GA were 1136.4±725g (median 940g) and 27.9±3.5 weeks (median 27 weeks), respectively. Male and female proportions were 64% and 36%. NEC stage III occurred in 24 (61.5%) infants (NEC IIIB in 46.1%) and 19 (48.7%) were submitted to surgical intervention. The prevalence of small for gestational age status was 20.5%. Fourteen infants (35.8%) received indomethacin treatment. Enteral feeding was started before the diagnosis of NEC in 37 (94.8%) newborns. Twenty three (58.9%) had breast milk. NEC stage IIIB occurred in 53.8% of those who had minimal enteral feeding (< 10 ml/kg/day) and in 66.7% of those who had rapid progression of milk intake (≥ 20 ml/kg/day). The mortality rate due to NEC was 31%, accounting for 35.5% of VLBW, 36.3% of ELBW, 50.0% of NEC stage IIIB and 21.0% of surgical cases. Intestinal strictures without a history of surgical intervention and short bowel syndrome occurred in 2 cases, respectively. ***Conclusions:*** Because ECN can take catastrophic proportions in infants, we emphasize the importance of preventive strategies, early diagnosis and treatment in order to ameliorate the morbid-mortality rate of all NICU.

Key-words: morbid-mortality, necrotizing enterocolitis, prematurity.

FC11 - Universal Newborn Hearing Screening: data from three years of experience.

Manuel Oliveira[1]; Alice Freitas[1]; Alexandre Mexedo[2]; Nuno Lousan[3]; Sérgio Caselhos[3]; Fausto Fernandes[3].
1-Neonatal Intensive Care Unit (NICU) - CHAA Guimarães; 2-Department of Otorhinolaryngology - CHAA Guimarães; 3-Department of Otorhinolaryngology - CHAA Guimarães. Portugal.

Abstract: Hearing impairment is among the most common congenital abnormality, with a reported prevalence of 1-4/1000 live births. Universal Newborn Hearing Screening (UNHS) provides early detection of hearing loss. This allows early intervention which is critical to prevent the adverse consequences on speech, language and cognitive development. The aim of this study was to analyze data obtained by the UNHS at the Centro Hospitalar do Alto Ave (CHAA) in the period from 1 January 2006 to 31 December 2008. There were screened 7887 newborns, which accounts for 93% of the total newborns at CHAA. The percentage increased from 84% in 2005 to 98% in 2006 and 2007. Initial screening was conducted before one month of age (95%), generally in the newborn nursery before discharge. Risk factors for hearing loss were identified in 6,8% of the screened newborn. Prolonged exposure to ototoxic medications (46,3%), family history (35,2%), birthweight under 1500g (17%) and craniofacial anomalies (15%) were the most prevalent. Around 5, 4% of these high risk newborns failed the screening. The total referral rate for additional audiologic evaluation was 0,6%, corresponding to 48 children. Of these, 40% don't have any risk indicators for deafness. The results show an improvement in the screening implementation along the time, with more than 95% of all newborns tested in the past two years. The referral rate to diagnostic confirmation in our population correlates to the data published at the world level. Finally, the presence of hearing impairment among the children without high-risk factors at birth demonstrates the need for universal hearing screening of all newborns.

Key-words: High-risk factors, universal newborn hearing screening.

FC12 - Candidemia in very low birth weight infants: two years review.

Teresa Andrade[1]; Fátima Camba[2]; M.C. Céspedes Dominguez[2].
1-Pediatric Department, Unidade Local Saúde Alto Minho, Viana do Castelo, Portugal; 2-Neonatal Intensive Care Unit, Vall D`Hebron Hospital, Barcelona, Spain.

Background: Systemic fungal infections have become the third most common cause of late-onset infection among very low birth weight (VLBW) infants in most neonatal intensive care units (NICU). Risk factors include colonization, long stay in NICU, broad-spectrum antibiotics exposure, central venous catheters, parenteral nutrition including lipid emulsion, and mechanical ventilation. The major causatives agents are C. albicans and C. Parapsilosis. The most commonly used antifungal agents are amphotericin B and fluconazole. The profilaxis with fluconazole, although decreases the risk of fungal colonization, raises the question of antifungal resistance. The aim of this study was to evaluate the fungal infections in VLBW infants in a NICU. ***Methods:*** A retrospective study of invasive candidiasis was conducted in the NICU of Vall d'Hebron Hospital in 2006 and 2007. ***Results:*** During the two-years period, 23 VLBW neonates developed nosocomial candidiasis (6% of a total of 363 VLBW infants). Gestational age of 25 weeks or less was found in 11 (48%) cases. The median weight was 775g. Six cases (26%) developed within the first week of life. Concerning to risk factores we found: central vascular access in about 80% of cases, parenteral nutrition with lipid perfusion in 90%, previous sepsis in 65%, mechanical ventilation in 40% and previous surgery in 20%. The two most frequent causative species were Candida albicans (70%) and Candida parapsilosis (21%). Fluconazole was the most used antifungal; amfotericin B was used in more severe cases. Death occur in 5 cases (21,7%). ***Comment:*** Invasive candidiasis is an important nosocomial infection in VLBW infants

in a NICU. Because the prognosis is associated with high mortality, prevention measures to reduce risk factors are of crucial.

Key-words: Invasive candidiasis, nosocomial infection, very low birth weight.

FC13 - Change in clinical practice resulting in less patient harm: lessons learned from risk assessment and incident reporting in the NICU.

Maria João Lage[1]; Cristina Friaças[1]; Micaela Serelha[1].
1-Neonatal Intensive Care Unit - Hospital de Dona Estefânia. Lisbon, Portugal.

Outline of context: In the NICU of Hospital D. Estefânia, clinical risk is assessed by all the doctors and nurses in a regular basis and voluntary incident reporting is a routine. ***Outline of problem:*** The analysis of the 140 incident reports submitted in the NICU from 2003 to 2007, revealed that more than half (74) were related to medication and intravenous lines. Nine prescription errors and 7 infusion pump incorrect rhythms were identified, leading to major patient harm in 4 cases. In January 30th, 2007, an audit concerning the prescription of continuous perfusion of intravenous drugs showed that records were hard to read, the use of abbreviations didn't follow a uniform rule and rhythm changes were frequently made without confirmation or recalculation of the correct dose being given. ***Strategy for change:*** Four corrective measures were proposed and made known to the NICU staff: prescription of intravenous drugs both in milligrams and millilitres; substitution of the abbreviation μg for microg; prescription in clear handwriting and double verification every 3 hours by the head nurse of the accuracy of all the infusion pump rhythms. ***Measurement of improvement:*** Sixteen prescriptions were audited in July 27th, 2007 with improvement in 50% and 41 prescriptions were audited in January 10th, 2008 with 18% still showing an incorrect use of abbreviations. In January, 2008, sixty-two incident reports were analysed and showed less patient harm (only 1 case) associated with prescription errors (5 incidents) or wrong rhythm setting on the infusion pump (4 incidents). ***Message for others:*** Risk assessment and incident reporting can help you to know the patterns of error and risk in your environment. In order for this information to be useful, it will have to be known by everyone involved and acted upon. Measures taken must be audited regularly so that change can prove to be a benefit for the patient.

Key-words: Incident reporting, risk assessment.

FC14 - Very low birth weight newborns - survival without major morbidities.

Cláudia de Almeida Fernandes[1]; Sónia Antunes[2]; Catarina Dâmaso[3]; Israel Macedo[4]; Manuela Santos[4]; Filomena Pinto[4]; Teresa Tomé[5].
1-Centro Hospitalar de Setúbal EPE; 2-Hospital do Espírito Santo, Évora EPE; 3-Hospital Reynaldo dos Santos, Vila Franca Xira; 4-Maternidade Dr. Alfredo da Costa; 5-Directora Serviço Pediatria Maternidade Dr. Alfredo da Costa. Lisbon, Portugal.

Background and aims: Advances in neonatal intensive care increased survival, and the biggest challenge is to reduce morbidity. Monitoring results is essential for the evaluation of clinical practice. The aim of this study was to determine the incidence of major morbidity in very low birth weight (VLBW) infants on discharge day and to evaluate the factors responsible for it. ***Methods:*** Retrospective, descriptive study of VLBW infants admitted to the NICU in 2006 and 2007, for more than 24hours. Excluded infants with congenital malformations and dead. Morbidity was categorized into two groups: Group1-infants with ≥1 major morbidity [bronchopulmonary dysplasia (BPD), surgical necrotizing enterocolitis (NEC), IVH (intraventricular hemorrhage)>2, cystic PVL, retinopathy of prematurity(ROP)>2]. Bivariate and multivariable analysis using SPSSv16.0. ***Results:*** The study included 214 infants, 18.7% in group 1, of which 27.1% had more than one major morbidity. The most frequent major morbidity were IVH>2, BPD and ROP>2. The analysis showed group 1 had lower birth weight (43vs1237g,p≤0.05) and lower gestational age(GA) (27 vs30 weeks,p≤0.05). There was significant difference in the number of ventilated infants (95%vs46.2%) and length of ventilation(3dvs28d); surfactant administration (90%vs51,1%), pneumothorax(12.5%vs1.2%), PDA(60% vs15.6%), seizures(12.5%vs1.1%) and late sepsis (15.6% vs 28.9%);p≤0.05. Multivariate analysis showed that the risk of major morbidity was significant higher with the occurrence of pneumothorax (RR 19,3; IC 1.94-192.3; p= 0.012), PDA (RR 2,38; IC 0.95-6; p= 0.06) and birth weight (RR 1,004; IC 1.002-1.006; p< 0.001). ***Conclusions:*** Survival without major morbidity in this group was 81.3%, higher than values found in the literature. Pneumothorax, PDA and late sepsis, were the most significant factors, so optimization of ventilatory strategy, a policy of careful administration of fluids, and prevention and control of infection, are important measures to increase the rate of survival without major morbidity.

Key-words: Major morbidity, survival, VLBW.

FC15 - Morbimortality among very low birth weight infants: casuistic of a neonatal intensive care unit.

Marcos António da Silva Cristovam[1]; João Pedro Pontes Câmara[2]; Ana Cláudia Lopes Plewka[2]; Henrique Seki[2]; Lara Franken Ciupak[2]; Fernando Alves Konrad[2]; Milene Moraes Sedrez Rover[2].
1-Hospital Bom Jesus-Toledo-PR-Brasil; 2-Hospital Bom Jesus. Brazil.

Background: Medical care of Very Low Birth Weight (VLBW) infants has changed dramatically with new approaches for both obstetric management and neonatal care. Significant improvements in preventive, diagnostic and therapeutic actions have allowed for better embryo evaluation and more precise care in relation to foetal health, leading to an increasing survival rate for these infants. ***Aims:*** The purpose of this study was to determine the morbimotality in VLBW in our neonatal intensive care unit, between the months of January 2001 and December 2003. ***Methods:*** Retrospective, descriptive study of variables as gestational age(GA), birth weight; comorbidities such as hyaline membrane disease(HMD), patent ductus arteriosus(PDA), sepsis, necrotizing enterocolitis(NEC), intraventricular hemorrhage(IVH), bronchopulmonary displasia and therapeutic(surfactant, ventilation). We compared our results with medical literature. ***Results:*** 95 patients were included. The median GA was 30,07 weeks(24-36); the median birth weight was 1097,5g(590-1500g). 56(58,9%) had HMD and surfactant replacement therapy was administered in this 56(58,9%) neonates. Intensive ventilation in 55(57, 8%) and 40(42, 1%) did not need ventilation support. About 13(13, 6%) were dependent on oxygen on 28th day of life. 26(27,3%) had PDA. 76(80%) had sepsis, 4(4,21%) had NEC and 4(4,21%) had IVH. Death occurred on 25(26, 3%) newborn infant. ***Conclusions:*** Our data, although

limited by the small study period show the mortality rate was similar at the literature, however, this study showed an increased incidence of sepsis when compared with medical literature. With recent knowledge about physiopathology of these babies and better antenatal care we hope to see an improvement in their outcome.

Key-words: Preterm, very low birth weight infant.

FC16 - Use of erythropoietin in the premature and retinopathy of prematurity - is there any relation?

Liliana de Oliveira Duarte Rocha[1]; Daniela Pio[2]; Simão Frutuoso[3]; Pedro Menéres[4]; Paula Fernandes[5]; Dulce Oliveira[3].
1-Serviço de Pediatria, Centro Hospitalar do Porto - Unidade Hospital de Santo António; 2-Serviço de Pediatria, Hospital Infante Dom Pedro; 3-Serviço de Cuidados Intensivos Neonatais e Pediátricos, Centro Hospitalar do Porto - Unidade Hospital de Santo António; 4-Serviço de Oftalmologia, Centro Hospitalar do Porto - Unidade Hospital de Santo António; 5-Directora do Serviço de Cuidados Intensivos Neonatais e Pediátricos, Centro Hospitalar do Porto - Unidade Hospital de Santo António. Portugal.

Background: Retinopathy of prematurity is still a major cause of blindness in childhood. With the increasing survival of premature infants due to neonatal care development it is essential to identify risk factors contributing to this disease. Recently some studies described an association between administration of recombinant human erythropoietin (rhEpo) to premature newborns, in order to reduce blood transfusions, and increased incidence of retinopathy of prematurity. ***Objectives:*** The aim of this study was to evaluate if treatment with rhEpo increased the incidence of retinopathy of prematurity in a single centre population. ***Methods:*** Retrospective cohort study analyzing clinical notes of premature newborns, admitted to the intensive care unit from January 2004 to August 2008. Inclusion criteria were gestational age below 32 weeks and birth weight below 1500g. Data included demographic characteristics, respiratory support, exogenous surfactant administration, inotropic drugs therapy, sepsis, number and volume of red blood cell transfusions received, rhEpo administration and diagnosis of retinopathy of prematurity. Patients were distributed in two groups: those submitted to rhEpo treatment and those without treatment (control group). Data were analyzed using 11.5 SPSS. ***Results:*** It included 115 premature infants, 54% female, with a 28 weeks mean gestational age and 1066g mean birth weight. The overall incidence of retinopathy of prematurity was 28,2%. 67 (58,3%) infants received rhEpo treatment. In our population there wasn´t significant difference in the incidence of retinopathy of prematurity between groups (26,5% in rhEpo treated group vs 30,6% in control group, p>0,1). The analysis of infants with known risk factors such as administration of exogenous surfactant, inotropic drugs and repeated sepsis, showed no increased incidence of retinopathy of prematurity in the patients treated with rhEpo. ***Conclusions:*** In this study we couldn't find an association between erythropoietin treatment, by itself or associated with other risk factors, and the incidence of retinopathy of prematurity.

Key-words: Erythropoietin, retinopathy of prematurity.

FC17 - Which variables influence the neurodevelopment outcome of the very low birth weight newborns?

Clara Marecos[1]; Ana Cadete[2]; Alexandra Oliveira[2]; Helena Figueiredo[2]; Manuel Cunha[3].
1-Departamento de Pediatria, Hospital Professor Dr. Fernando Fonseca, EPE, Amadora; 2- Departamento de Medicina Física e Reabilitação, Hospital Professor Dr. Fernando Fonseca, EPE, Amadora; 3-Departamento de Pediatria, Hospital Professor Dr. Fernando Fonseca, EPE, Amadora. Portugal.

Introduction: The very low birth weight newborns (VLBW) are at high risk for neurodevelopment delay, justifying the application of early intervention programmes. ***Objectives:*** To evaluate the application of a Development Care Program (DCP) and identify perinatal variables with influence on neurodevelopmental outcome. ***Methodology:*** Analysis of VLBW perinatal demographics, morbidity and sequelae between 2001 and 2005; evaluation of DCP concerning its application and influence on neurodevelopment outcome. ***Results:*** Out of 323 VLBW newborns, 265 were enrolled (15,2% died; 2,8% transferred) and 89% had DCP intervention at NICU. No differences were observed between the Group with follow-up (157/58,5%) and the Group without follow-up (108/41,5%) concerning gestacional age, BW, gender, Apgar score, voluntary abortion, prenatal corticoids, resuscitation, IVH, PVL, ROP; significant differences were found concerning mothers age (28,7/26,1;p=0,002), pregnancy surveillance (63,5/36,5;p=0,007), ventilation time (4,97/4,94dias;p=0,002) and NEC occurrence (73,5%vs26,5%;p=0,038). More adherence to DCP when initiated in NICU (92,3%vs84,5%;p=0,045) and with early outpatient follow-up (90,3%vs70,8%;p=0,000). The Group with follow-up had a median age of 3,6 years (0,2 to 9): 76% presented normal neurodevelopment; 6,4% cerebral palsy; 9,6% neurodevelopment delay/cognitive deficit; 3,8% ADHD. Significant differences were found between normal neurodevelopment and development delay concerning BW (1043/1151g;p=0,017), IVH grade (p=0,003) and BPD (15,2%vs3,7%;p=0,012); no differences within gestational age, prenatal corticoids, gender, PVL, NEC, ROP, PDA and NICU intervention. 31% needed technical support after discharge (early intervention, physiotherapy, occupational or speech therapy, psychology and special education). ***Conclusion:*** The VLBW of older mothers, with surveyed pregnancies, who presented higher morbidity and DCP intervention during NICU stay and had an early outpatient follow-up showed more adherence to the DCP. BW, male gender, IVH, BPD influenced negatively neurodevelopmental outcome. 41,5% of the VLBW didn't have any follow-up, nevertheless similar major motor and neurosensorial deficits should be observed since the perinatal characteristics are similar but with less morbidity. However, a higher risk of behavioural problems and learning difficulties are expected.

Key-words: neurodevelopment, variables, VLBW.

FC18 - Positional plagiocephaly in preterm infants.

Ana Melo[1]; Edward Bell[2].
1-Hospital de Santarém, Portugal; 2-University of Iowa Children's Hospital, USA.

Introduction: Plagiocephaly means oblique head. There are two kinds of plagiocephaly: congenital and positional. Positional plagiocephaly is an acquired phenomenon that usually results from positioning in sleep. One of the concerns of this condition is that although the majority of children self correct their deformity, some develop a significant nonsynostotic occipital plagiocephaly, especially on the right side, that does not get corrected unless intervention is initiated. One of the risk factors for positional plagiocephaly can be prematurity with a long stay in Neonatal Intensive Care Unit (NICU). ***Objectives:*** Relate positional plagiocephaly with care prac-

tices in the NICU. The main question was: Do care practices in the NICU influence the right occipital plagiocephaly seen in preterm babies? ***Methods:*** Observe babies ≤ 32 weeks of gestational age during 1 month Analyze: Baby's position; type of ventilator support; location of seating; direction of approach by parents and nurses. ***Results:*** 132 observations on 24 babies 23-32 weeks gestational age Babies are in supine (79.5%) and on the right side (54.5%) more frequently than in prone (20.5%) or on the left side (23.5%) Babies who are supine have the head turned to the right (42.4%) more frequently than to the left (15.2%). There is no tendency for babies who are in supine and have endotracheal tubes (24.8%) to have their heads to the right more than those on nasal cannulas (28.6%). There is a tendency for parents to be seated on the baby's right (18.2%) rather than the left (7.6%). The nurse approaches the babies from the right (31.1%) more frequently than from the left (0.8%). ***Conclusions:*** The majority of care practices are given on the right side The right plagiocephaly often seen in preterm babies can be related to care practices It is possible to change some of these care practices.

Key-words: Positional plagiocephaly.

FC19 - Diagnosis and cause of death in a NICU - how important is autopsy?

Sandra Costa[1]; M. Rodrigues[1]; O. Brandão[1]; A. Martins[1]; A. Vilan[1]; H. Guimarães[1].
1-Hospital S. João. Porto, Portugal.

Introduction: Autopsy has had an important role in medicine, not only in determining cause of death and identifying unsuspected associated findings, but also when counseling families after the loss of an infant, clarifying the circumstances surrounding the death of their child and identifying conditions relevant for the management of future pregnancies. However, autopsy rates have declined in recent years. ***Objectives:*** Characterize mortality in a tertiary referral Neonatal Intensive Care Unit (NICU) in Portugal, measure the neonatal autopsy rate and determine the concordance between ante-mortem and post-mortem diagnosis. ***Material and Methods:*** Retrospective review of the clinical and pathology records of infants who died between 2004 and 2008. For those with autopsies, pathology and clinical diagnoses were compared and classified according to general concordance and to a modified Goldman classification. ***Results:*** During the referred period, 1938 patients were admitted to the NICU, with a mortality rate of 5,7% (110 patients); 53 patients were submitted to autopsy, performing a 48,2% global autopsy rate (minimum 34,8% in 2005 and maximum 60% in 2008). The most frequent causes of death were congenital malformations and prematurity with its complications. Pathology agreed with the clinical diagnose in 18 cases (34%) and additional findings were discovered in 22 newborns (41,5%); in 13 cases (24.5%) the clinical diagnose was revised or the diagnose was established by pathology. The most frequently missed diagnose was pneumonia; sepsis was the condition most frequently over diagnosed. There were three cases (5,7 %) in which the information found would probably have led to a change in management and five autopsies revealed information relevant for genetic counseling. ***Conclusion:*** Despite the medical and technological advancements, there are still significant rates of clinical-pathology discordance, frequently with clinical significance, re-enforcing that autopsy remains an important procedure after neonatal death.

Key-words: Autopsy, NICU.

FC20 - Impact of maternal FT4 and iodine levels on progeny's development.

Maria José Costeira[1]; Pedro Oliveira[2]; Susana Ares[3]; Belen Saenz-Rico[4]; Gabriella Morreale de Escobar[3]; Joana A. Palha[5].
1-Serviço de Neonatologia, CHAA, EPE, Guimarães; 2-Department of Production & Systems Engineering, University of Minho, Braga; 3-Instituto de Investigaciones Biomédicas Alberto Sols, Centro Mixto Consejo Superior de Investigaciones Científicas-Universidad Autónoma de Madrid; 4-Facultad de Educación-Departamento de Didática y Organización Escolar, Universidad Complutense, Madrid; 5-Life and Health Sciences Research Institute (ICVS), School of Health Sciences, University of Minho, Braga. Portugal.

Introduction: Thyroid hormones are essential for the proper development of the central nervous system; however the foetus only starts producing significant amounts of thyroid hormones after the 20th gestational week, therefore depending on mother's contribution until the end of gestation. Maternal FT4 and iodine low levels are related to poorer development outcome and lower cognitive performance of the progeny. ***Objectives:*** To evaluate the relation between first trimester maternal serum FT4 levels and iodine status and children's development. ***Subjects and methods***: Prospective study carried out at the Centro Hospitalar do Alto Ave (Portugal), between January of 2003 and December of 2005. Demographic and clinical information of 131 pregnant women and their offspring were collected. Thyroid function was assessed by RIA and urinary iodine by the ammonium persulfate method. Infant development was assessed by the Bayley Scale of Infant Development (BSID) at 12, 18 and 24 months, measuring Mental Development Index (MDI) and Psychomotor Development Index (PDI). ***Results:*** Mothers who had lower levels of FT4 in first trimester of pregnancy had children with lower PDI at 18 and 24 months; those who had lower urinary iodine in first trimester had children with lower PDI at 18 months and lower MDI at 24M. ***Conclusions:*** Maternal thyroid function and iodine status early in pregnancy are related to the progeny's psycho-motor development. Iodine deficiency should be prevented.

Key-words: Iodine deficiency- maternal hypothyroxinemia-infant development.

FC21 - Iodine status of pregnant women and their progeny in the Minho region of Portugal.

Maria José Costeira[1]; Pedro Oliveira[2]; Susana Ares[3]; Gabriella Morreale de Escobar[4]; Joana A. Palha[5].
1-Serviço de Neonatologia, CHAA, EPE, Guimarães; 2-Department of Production & Systems Engineering, University of Minho, Braga; 3-Instituto de Investigaciones Biomédicas Alberto Sols, Centro Mixto Consejo Superior de Investigaciones Científicas-Universidad Autónoma de Madrid; 4-Instituto de Investigaciones Biomédicas Alberto Sols, Centro Mixto Consejo Superior de Investigaciones Científicas-Universidad Autónoma de Madrid; 5-Life and Health Sciences Research Institute (ICVS), School of Health Sciences, University of Minho, Braga. Portugal.

Background: Iodine is a trace element required for the biosynthesis of thyroid hormones and is obtained from external sources. Thyroid hormones regulate various processes of the cellular metabolism, influencing all cells throughout life. Particularly important is the role of thyroid hormones in normal brain development. There are no recent reports about iodine status or supplementation in Portugal. ***Objective:***

Evaluate, in the Minho region of Portugal, the iodine status of women throughout pregnancy and after delivery, and of their offspring. ***Design:*** Determination of urinary iodine concentration (UI) [in non-pregnant women (n=78) at fertile age, in pregnant women (n=140) in the three trimesters of pregnancy and after delivery and in their offspring (n=142)], of milk iodine concentration (at 3 days and 3 months after delivery) and of the thyroid volume (women in the third trimester of pregnancy and 3 months after delivery, and infants at 3 months). ***Results:*** In accordance with the World Health Organization criteria both non-pregnant and pregnant women showed signs of iodine deficiency, as revealed by median UI (<75 mcg/L) and milk iodine (<100 mcg/L). Goiter was observed in 14% of the pregnant women. Concordant with the mother's iodine deficiency, median neonatal UI was similarly low (71 mcg/L and 97 mcg/L at 3 days and 3 months of age). ***Conclusion:*** Portuguese women of the Minho region have an inadequate iodine intake, which may compromise the potential full psychomotor development of their progeny. These observations suggest that iodine supplementation should be implemented throughout pregnancy and lactation in Portugal.

Key-words: Iodine deficiency disorders- pregnancy- psychomotor development.

FC22 - Correlation of the weight, serum levels of sodium and potassium in newborns with high risk of bronchopulmonary dysplasia.

Peter Krcho[1]; Katarína Vilčeková[1]; Viktória Hudáková[1]; Zuzana Gajdošová[1].
1- Neonatal Intensive Care Unit, Neonatal Clinic, Medical Faculty and Pediatric Faculty Hospital, Košice, Slovakia.

Objective: The effective prevention of bronchopulmonary dysplasia (BPD) requires an understanding of the possible side effects of various interventions. Authors hypothesize that BPD may result from not only prematurity, ventilation strategies, and cytokine-related lung injury, but also from management during the transition period, fluid and energy intake, and mineral homeostasis and other. ***Methods:*** The authors compared weight gain and mineral homeostasis in 50 newborns under 1500 g during the 30 day period after delivery while they were treated in the neonatal intensive care unit Košice during 2006. The data collected were weight gain, and serum levels of Na and K. The incidence of complications, days of mechanical ventilation, and days of bubble CPAP. After the data collection period, the newborns were divided to two groups based on the presence or absence of BPD. Data were analyzed by multiregression analysis, with significance if p<0,05. ***Results:*** The occurrence of BPD in the whole group was 24%. The newborns with BPD had lower birth weight and gestational age, more days of ventilation, and had also slower weight gain. The weight during the first seven days decreased significantly in newborns with BPD, and the newborns with BPD were able to regain birth weight at a mean age of 24 days, while the newborns without BPD did so on at an average of 15 days. The average daily weight gain was significantly higher in newborns without BPD. The level of sodium on the 7th day was significantly lower in newborns without BPD, the level of potassium on 7th day was significantly lower in newborns with BPD, the levels of sodium and potassium from the 7th until the 30th day of life were not significantly different in the two groups. ***Conclusion:*** Future research in this area might be directed toward refining the critical period during which water intake must be controlled in order to achieve a reduction in BPD, although they are clear protocols for the management. It would also be valuable to develop models for predicting optimal water and mineral balance that take into account the most important determinants, such as birth weight, gestational age, postnatal age, and ambient humidity. Finally, future studies should target the most vulnerable group for BPD, extremely premature infants, and what is most important for them – ventilation strategy, fluid and mineral homeostasis, infection, and cytokine-mediated injury, among others.

Key-words: Bronchopulmonary dysplasia, potassium, sodium, weight.

FC23 - Impact of conventional ventilation versus early high frequency oscillation on serum IL-6 and CC16 levels in ventilated preterm neonates.

Kosmas Sarafidis[1]; Theodora Stathopoulou[1]; Eleni Agakidou[1]; Anna Taparkou[2]; Elisavet Diamanti[1]; Vasiliki Soubasi[1]; Vasiliki Drossou[1].
1-11st Dept. of Neonatology and 21st Dept. of Pediatrics of Aristotle University of Thessaloniki, "Hippokration" General Hospital, Thessaloniki, Greece.

Background: Interleukin (IL)-6 and, recently, Clara cell 16 kD protein (CC16) have been proved reliable biomarkers of inflammation and alveolar leakage, respectively. Thus, their measurement in the blood could be used to assess ventilator-induced lung injury. ***Aim:*** To evaluate the effect of optimized synchronized intermittent mandatory ventilation (SIMV) and High Frequency Oscillation (HFO) on circulating IL-6 and CC16 levels when used as primary respiratory modes in preterm neonates. ***Patients-methods:*** This was a single center, prospective, randomized clinical study in preterm neonates (gestational age ≤ 30 weeks) requiring mechanical ventilation after birth (< 2 hours of life). Enrolled neonates (n=30) were assigned upon admission into the SIMV and HFO group, respectively. Serum IL-6 and CC16 were measured (ELISA) at days 0 (T0), 3 (T1) and 14 of life (T2) as well as at 36 weeks postmenstrual age (T3). Demographic data, prematurity associated complications, survival and BPD development were also recorded. ***Results:*** Twenty-four neonates were finally studied, equally assigned into the SIMV and HFO groups. Both groups had comparable demographic characteristics, complications, survival and BPD development. Serum IL-6 and CC16 levels did not differ between the two groups at any time point evaluated. ***Conclusion:*** In preterm neonates, SIMV and HFO are associated with comparable IL-6 and CC16 in the bloodstream. These data do not support the superiority of any of the ventilation modes studied in terms of reducing systemic inflammation and alveolar leakage as long as their usage is optimized.

Key-words: CC16, conventional ventilation, high frequency oscillation, IL-6.

FC24 - Risk factors for pneumothorax in very low birth weight (VLBW) infants.

Rita Calado[1]; Cláudia Fernandes[2]; Ana Fernandes[1]; Israel Macedo[3]; Ana Bettencourt[4]; Teresa Tomé[4].
1-Hospital do Espírito Santo, Évora EPE; 2-Centro Hospitalar de Setúbal EPE; 3-Maternidade Dr. Alfredo da Costa; 4-Directora do Serviço de Pediatria Maternidade Dr. Alfredo da Costa. Portugal.

Introduction: Pneumothorax is a life-threatening event associated, in VLBW infants, with severe adverse outcomes,

including bronchopulmonary dysplasia, neurodevelopment sequelae and death. ***Objectives:*** Identify risk factors for pneumothorax in VLBW infants. ***Design:*** Case-control study. ***Methods:*** In the VLBW population admitted to our NICU from January 2003 to December 2008, identification of all infants with pneumothorax. Cases were matched with controls without pneumothorax, for gestational age (GA), birth weight (BW) and intrauterine growth restriction (IUGR). Perinatal, neonatal and treatment variables were collected and analysed for each infant. Statistical analysis was performed using descriptive and non-parametric methods, stating percentages, OR and 95% CI. ***Results:*** Thirty five of 710 VLBW infants (4,65%) admitted to our NICU developed pneumothorax (median 3 days). There were no significant differences between the pneumothorax and the control group in what concerns to gender, BW (median 864g vs 840g), GA (27 vs 25,9 weeks), antenatal steroid treatment (81,8% vs 87,5%), hand bag ventilation or endothraqueal intubation (78,8 vs 75%) in delivery room. Pneumothorax was bilateral in 18,2% of the infants and 78,8% required chest drain insertion. In the 24 hours preceding the pneumothorax, (event compared with no event), 68% vs 40% were submitted to ET aspiration, 25% vs 10% required hand bag ventilation, 21,4 vs 26,7% were reintubated, 51,7% vs 29% had inotropics and 27,6% vs 6,5% had diuretic therapy. The median fluid volume was higher in infants with pneumothorax (130 ml/kg/day vs 117 ml/kg/day). There was a trend toward a protector effect with antenatal care (47,7% vs 83,3%, p=0,19). By multivariable analysis, PaO2 had a significant protector effect, FiO2 a significant increase in risk. MAP was associated with a borderline increase in risk. ***Conclusions:*** The sample was too small (underpowered) for statistic inference. Ventilation strategies, among other factors, play a role in this pathology. We discuss the identified trends in a future prospective study.

Key-words: Pneumothorax, risk factors, VLBW.

FC25 - Bolus vs continuous feeding in preterm infants less than 1500g.

Marta Moniz[1]; Raquel Maia[1]; Manuel Cunha[1]; Elsa Paulino[1]; Rosalina Barroso[1].
1-Neonatal Intensive Care Unit, Paediatrics Department, Hospital Professor Dr. Fernando Fonseca EPE. Amadora, Portugal.

Introduction: the feeding method (continuous vs bolus) that best suits preterm infants with very low birth weight (VLBW) is still in discussion because there is not enough scientific evidence to support which one is more effective. ***Aim:*** examine if bolus enteral feeding is associated with earlier full enteral feeding (FEF) and hospital discharge, less feeding pauses and complications than continuous feeding. In addition, verify the differences in oral stimulation between breast and bottle feeding regarding time to attainment of independent oral feeding and length of hospital stay. ***Methods:*** retrospective study of the preterm infants that stayed in the neonatal intensive care unit and were registered in the national network of preterm with VLBW, between April 2007 and December 2008. Demographic and clinical parameters were analysed. ***Results:*** Were included 81 VLBW preterm infants - group 1 bolus feeding method (n=43); group 2 continuous feeding method (n=38). Both groups were similar in mean gestational age (29,9±2,6vs29,8±sem;p=0,81), mean birth weight (1301±308, 1vs1243±349,1gr.;p=0,43), gender (males:53,5%vs42,1%; p=0,31) and average CRIB (2,07±2,3vs1,92±2,2;p=0,77). Group 2 reached FEF later (15,2vs19,7;p=0,06), with longer total parenteral nutrition (13,4vs18,4;p=0,04) and longer duration of catheters (13,2vs17,4;p=0,05). Neither groups showed differences in number of feeding pauses, necrotizing enterocolitis (4,7%vs2,6%;p=0,55), and late onset sepsis (34,9%vs47,4%;p=0,18). The length of hospital stay was also similar in both groups (46,1vs48,3;p=0,73). The multiple regression analyses showed a statistical significant correlation between length of hospital stay and gestational age, day of beginning of enteral feeding and time to FEF. No significant differences were found in oral stimulation method (breast/bottle) regarding time to attainment of independent oral feeding and length of hospital stay. **Discussion:** with bolus feeding method was observed a tendency for an earlier acquisition of FEF than with continuous feeding, although with no statistical significance, which is in line with the literature.

Key-words: Enteral feeding; preterm; very-low-birth-weight.

FC26 - Breastfeeding among very preterm and very low birthweight in a neonatal intensive care unit.

Sofia A. A. Ferreira[1]; Alexandra Paul[1]; Adelaide Taborda[1].
1-Maternidade Bissaya Barreto. Coimbra, Portugal.

Objectives: To evaluate the prevalence of breastfeeding in very preterm (VP) and very-low-birth weight infants (VLBW) during hospitalization and discharge in a Neonatal Intensive Care Unit and at 3 and 6 months of chronological age. ***Methods:*** Descriptive study based on retrospective analysis of all cases of very preterm newborn (<32w) and / or birth weight ≤ 1500g admitted in the NICU during 2008. Duration of breastfeeding after discharge and by 3 and 6 months old was assessed by telephone interview. Data were processed in SPSS v.17. ***Results:*** The study included 77 infants (40% of all NICU hospitalizations): 61 (79%) VLBW and 68 (88%) VP. Eleven were growth restricted. Enteral feeding was started early (<4 days) on 95% of newborns (median 2 days). More than half of the preterm babies required parenteral nutrition (median of 7 days of duration). Breast milk was used in 96% of the newborns during hospitalization, in 26% of them as the only milk. The majority of infants (73%) with <28w were exclusively fed with breast milk during hospitalization. Breast milk fortifier was used in half of the babies exclusively fed with breast milk. Only formula milk was used in 4% of the preterm babies. Birth weight recovery occurred on average by 12,9th day (median of 12th day). There were 16 cases of sepsis, 16 RDS, 9 PDA, 3 NEC and 4 severe cerebral hemorrhages. The mortality rate was 3%. Seventy one percent of the premature babies were transferred to a less differentiated neonatal care unit. At discharge or transference 96% of the newborns were fed with breast milk (53% exclusively). Furthermore, all the babies discharged home were breastfed (80% exclusively). Breastfeeding prevalence at 3 months was 58% and at 6 months 27%. ***Conclusions:*** Almost all premature babies and all high risk premature babies (<28w) were fed with breast milk.

Key-words: Breastfeeding, early premature, very low birth weight.

FC27 - Melatonin rhythm in saliva of newborn infants.

Soyhan Bagci[1]; Andreas Mueller[1]; Jochen Reinsberg[2]; Peter Bartmann[1]; Axel R. Franz[1].
1-Department of Neonatology, Children's Hospital, University of Bonn, Bonn D-53113, Germany; 2-Department of Gynecological Endocrinology, University of Bonn, Bonn D-53113, Germany.

Background and aims: Pineal physiology is not completely elucidated in newborn infants. The aim of this study was to evaluate melatonin rhythm in serum and saliva of newborn infants and to assess whether salivary melatonin could be used as a reliable alternative to serum melatonin to study the pineal physiology in newborn infants. ***Subjects and methods:*** In 95 healthy newborn infants melatonin was determined in saliva and blood samples taken between 36 and 48 hours of life. The infants were allocated to four groups according to the time of sampling (09-11am, 03-05pm, 09-11pm, 03-05am). ***Results:*** 95 serum and 73 saliva samples were evaluated. The median melatonin levels in serum and saliva were not significantly different between groups: Median (interquartile range), 18.4pg/ml (13.9-26.0pg/ml) and 10.6pg/ml (7.5-14.9pg/ml); 13.3pg/ml (11.5-19.0 pg/ml) and 9.1pg/ml (7.8-14.2pg/ml); 16.0pg/ml (12.4-18.7pg/ml) and 12.3pg/ml (8.2-16.8pg/ml); 13.0pg/ml (8.8-27.4pg/ml) and 11.2pg/ml (7.7-16.6pg/ml) for group 1, 2, 3, and 4, respectively ($p>0.05$). Daytime and nighttime serum and salivary melatonin concentrations were similar. The results revealed a highly significant correlation between the serum and salivary melatonin levels (Pearson's correlation coefficient, $r = 0.763$; $P < 0.001$). ***Conclusion:*** Newborn infants < 48 hours of age do not seem to have a circadian melatonin rhythm. The data demonstrate for the first time that melatonin levels in saliva reflect those in serum at any time of the day and like serum melatonin levels do not increase at night. The measurement of salivary melatonin provides a valid, non-invasive, and practical alternative to blood sampling in newborn infants.

Key-words: Correlation, melatonin, newborn, saliva, serum.

Posters

Thursday 12th, 14:00-15:00, Session 1 – Poster Presentations

P01 - Pediatric presence at the delivery room.
Isabel Sampaio[1]; Leonor Boto[1]; Joana Saldanha[1].
1-Unidade de Neonatologia, Hospital de Santa Maria. Lisbon, Portugal.

P02 - Neonatal Asphyxia - Reality CUF Descobertas Hospital.
Filomena N. V. Pedro[1]; M.ª João Santos[1]; Filipa Marques[1].
1-CUF Descobertas Hospital. Lisbon, Portugal.

P03 - Elective caesarean delivery, neonatal intensive care unit admission and neonatal respiratory distress.
Cristina Pereira[1]; Sónia Silva[1]; Gabriela Mimoso[1]; Conceição Ramos[1].
1-Maternidade Bissaya Barreto. Coimbra, Portugal.

P04 - The first day of life.
Marisa Isabel Almeida Carvalho[1]; Margarida Costa[1]; Eurico Gaspar[1].
1-Centro Hospitalar de Trás-os-Montes e Alto Douro. Portugal.

P05 - Organized palliative care in a neonatal intensive care unit: do we need it?
Ana Rita Prior[1]; Dina Oliveira[1]; Filipa Sobral[1]; Laurinda Santos[1]; Graça Oliveira[1]; Margarida Albuquerque[1]; Carlos Moniz[1].
1-Hospital de Santa Maria. Lisbon, Portugal.

P06 - Congenital Diaphragmatic Hernia: case report.
Marcos António da Silva Cristovam[1]; João Pedro Pontes Câmara[2]; Ana Cláudia Lopes Plewka[2]; Henrique Seki[2]; Lara Franken Ciupak[2]; Fernando Alves Konrad[2].
1-Hospital Universitário do Oeste do Paraná-Cascavel-BRASIL; 2-Hospital Universitário do Oeste do Paraná.

P07 - Persistent pulmonary hypertension of the newborn - a case report.
Edite Gonçalves[1]; Maria João Baptista[1]; Beatriz Guedes[2]; José Areias[3]; Hercília Guimarães[4].
1-Cardiologia Pediátrica - Hospital São João; 2-Neonatologia - Hospital São João; 3-Cardiologia Pediátrica - Hospital São João; Faculdade Medicina Universidade do Porto; 4-Neonatologia - Hospital São João; Faculdade Medicina Universidade do Porto. Porto, Portugal.

P08 - An unusual case of pulmonary hypertension.
Edite Gonçalves[1]; Patrícia Costa[1]; Maria João Baptista[1]; Jorge Moreira[1]; José Monterroso[1]; Otília Brandão[2]; Carla Bartosch[2]; Gustavo Rocha[3]; José Areias[4]; Hercília Guimarães[5].
1-Cardiologia Pediátrica - Hospital São João; 2-Anatomia Patológica - Hospital São João; 3-Neonatologia - Hospital São João; 4-Cardiologia Pediátrica - Hospital São João; Faculdade de Medicina Universidade do Porto; 5-Neonatologia - Hospital São João; Faculdade de Medicina Universidade do Porto. Porto, Portugal.

Thursday 12th, 14:00-15:00, Session 2 – Poster Presentations

P09 - Illness severity scores in ventilated preterm neonates.
Amélia Moreira[1]; Maria José Costeira[1]; Pedro Oliveira[2]; Agostinha Costa[1]; Clara Paz Dias[1]; Alice Freitas[1].
1-Centro Hospitalar do Alto Ave - Guimarães; 2-Escola de Ciências da Saúde - Universidade do Minho. Portugal.

P10 - Morbidity in twins infants.
Manuel Oliveira[1]; M. J. Costeira[1]; P. Oliveira[2]; A. Costa[1]; C. P. Dias[1]; A. Freitas[1].
1-Neonatal Intensive Care Unit (NICU) - CHAA Guimarães; 2-School of Health Sciences (ICVS), University of Minho. Portugal.

P11 - Cerebral function monitor - the experience of Hospital de Santa Maria's Neonatal Intensive Care Unit.
Carolina Constant[1]; Isabel Sampaio[1]; Raquel Gouveia[2]; Sandra Valente[2]; André Graça[2].
1-Serviço de Pediatria, Departamento da Criança e da Família, Clínica Universitária de Pediatria. Hospital de Santa Maria; Centro Hospitalar Lisboa Norte EPE; 2-Serviço de Neonatologia, Departamento da Criança e da Família, Clínica Universitária de Pediatria. Hospital de Santa Maria; Centro Hospitalar Lisboa Norte EPE. Lisbon, Portugal.

P12 - Cerebral function monitor interpretation - a simple and useful skill to acquire.
Isabel Sampaio[1]; Carolina Constant[1]; Raquel Gouveia[2]; Sandra Valente[2]; André Graça[2].
1-Serviço de Pediatria, Departamento da Criança e da Família, Hospital de Santa Maria, CHLN; 2-Serviço de Neonatologia, Departamento da Criança e da Família, Hospital de Santa Maria, CHLN. Lisbon, Portugal.

P13 - What is the risk to be a late pre-term?
Ana Raquel Neves Ramalho[1]; Glória Silva[1]; Ana Faro[1]; Cavaco Rodrigues[1]; Fernanda Gomes[1]; Pereira Duarte[1].
1-Hospital do Divino Espírito Santo. Ponta Delgada, Portugal.

P14 - Craniosynostosis in neonatal period... What diagnosis?
Ângela Isabel Miguel Dias[1]; Bernarda Sampaio[1]; José Luís Fonseca[1]; Maria José Costeira[1]; Margarida Vilarinho[2]; Helena Carreira[5]; Luísa Malheiro[1].
1-Centro Hospitalar do Alto Ave - Guimarães; 2-Centro Hospitalar do Médio Ave – Famalicão. Portugal.

P15 - X-linked hypohidrotic ectodermal dysplasia: a new mutation.
Daniela Alves[1]; Beatriz Sousa[2].
1-Hospital S. João; 2-Unidade Local de Saúde do Alto Minho. Portugal.

P16 - Incontinentia pigmenti - a case report.
Sónia Santos[1]; Rita S. Oliveira[2]; Vítor Bastos[2]; José Matos[3]; Isabel Andrade[2].
1- Departamento de Pediatria, Hospital S. Teotónio, Viseu; 2-Departamento de Pediatria, Hospital S. Teotónio, Viseu; 3-Departamento de Dermatologia, Hospital S. Teotónio, Viseu. Portugal.

Thursday 12th, 14:00-15:00, Session 3 – Poster Presentations

P17 - Lack of accuracy in detecting prenatal alcohol exposure - medical error?
Maria José Costeira[1]; Andreia Brízida[2]; Carmina Rei[2]; Joana Cruz[2]; Josefina Pereira[2]; Liliana Bastos[2]; Mariana Campos[2]; Maria Xavier[2].
1-Serviço Neonatologia, CHAA, EPE, Guimarães; 2-Faculty of Education and Psychology, Portuguese Catholic University, Porto. Portugal.

P18 - Intestinal obstruction in the newborn: five years casuistic in a neonatal intensive care unit.
Cristina Pereira[1]; Margarida Fonseca[1]; Gabriela Mimoso[1]; Dolores Faria[1].
1-Maternidade Bissaya Barreto. Coimbra, Portugal.

P19 - Neonatal ovarian cyst.
Alexandre Braga[1]; Joao Pinto[2]; Gabriel Madureira[3]; Cidade Rodrigues[2]; Carmen Carvalho[1].
1-Neonatal Intensive Care Unit, Júlio Dinis Maternity, Oporto Medical Center; 2-Paediatric Surgery Service of Hospital Maria Pia, Oporto Medical Center; 3-Gynecology-Obstetrician Service Júlio Dinis Maternity, Oporto Medical Center. Porto, Portugal.

P20 - Craniosynostosis: neonatal clinical suspicion.
Maria João Magalhães[1]; Joana Dias[1]; Carla Sá[1]; Albina Silva[1]; Eduarda Abreu[1]; Matos Marques[1]; Bernardete Fernandes[1]; Almerinda Pereira[1].
1-Braga's Hospital. Braga, Portugal.

P21 - Bloch-Sulzberger syndrome - clinical case.
Liliana Pinheiro[1]; Susana Carvalho[1]; Carla Sá[1]; Albina Silva[1]; Eduarda Abreu[1]; Matos Marques[1]; Ana Paula Vieira[1]; Almerinda Pereira[1].
1-Hospital São Marcos. Braga, Portugal.

P22 - Lessons from diarrhea in a premature newborn: C. difficile and cow's milk allergy.
Sílvia Jorge[3]; Catarina Figueiredo[3]; Carla David[1]; Manuela Santos[1]; Filipa Santos[2]; Célia Iglésias[1].
1-Serviço de Pediatria, Maternidade Alfredo da Costa, Lisboa; 2-Unidade de Gastrenterologia, Hospital Dona Estefânia, Lisboa; 3-Serviço de Pediatria, HPP Hospital de Cascais, Cascais. Portugal.

P23 – (**Not available for publication**)

P24 - Neurodevelopment outcome of very low birth weight preterm infants.
Rita S. Oliveira[1]; Pedro Fernandes[1]; Joana Campos[1]; Cristina Faria[1]; Cecília Figueiredo[1]; Isabel Andrade[1].
1-Departamento de Pediatria, Hospital de São Teotónio. Viseu, Portugal.

Friday 13th, 11:00-12:00, Session 4 – Poster Presentations

P25 - Congenital syphilis: an eight year casuistic study at a level II institution.
Lia Rodrigues e Rodrigues[1]; Eliana Oliveira[1]; Cláudia Ferraz[1]; Maria José Costa[1]; Agostinha Souto[1].
1-Hospital Pedro Hispano, ULS Matosinhos. Matosinhos, Portugal.

P26- Neonatal HSV: a dangerous disease - three clinical cases.
João Pinho[1]; Cláudia Calado[1]; Maria J. Virtuoso[1]; Maria J. Castro[1]; Carla Mendonça[1].
1-Serviço de Pediatria - Hospital de Faro, E.P.E. Faro, Portugal.

P27 - Group B Streptococcus in a neonatology unit: Case series.
Catarina Magalhães[1]; Manuel Oliveira[1]; Susana Soares[1]; Alice Freitas[1].
1-Unidade de Neonatologia, Centro Hospitalar do Alto Ave, Guimarães. Portugal.

P28 - Congenital toxoplasmosis.
Gabriela Pereira[1]; Isabel Soro[1]; Alexandra Almeida[1]; Cristina Godinho[1].
1-Júlio Dinis Maternity, Centro Hospitalar do Porto - Porto, Portugal.

P29 - Neonatal group B streptococcal disease screening and prevention - Evaluation of a protocol.
David Araújo[1]; Rute Alves[1]; Joana Teixeira[1]; Lara Adelino[1]; Mara Andrade[1]; Ana Gonçalves[1]; Miguel Jeri[1]; Ana Nunes[1].
1-Intensive Care Unit of Júlio Dinis Maternity - Centro Hospitalar do Porto, Oporto. Porto, Portugal.

P30 - Fungal infection in neonates - cases in a maternity hospital.
Paula Marques Neto[1]; Cristina Resende[1]; Sandra Mesquita[1]; Lia Gata[1]; Paulo Fonseca[1]; Carlos Lemos[1].
1-Maternidade Bissaya Barreto – CHC. Coimbra, Portugal.

P31 - Early neonatal sepsis with pathogen isolation.
Cláudia de Almeida Fernandes[1]; Carla David[2]; Eduardo Fernandes[2]; Filomena Pinto[2]; Manuela Santos[2]; Teresa Tomé[3].
1-Centro Hospitalar de Setúbal EPE; 2-Maternidade Dr. Alfredo da Costa; 3-Directora do Serviço de Pediatria Maternidade Dr. Alfredo da Costa. Portugal.

P32 - Newborn (NB) infection in a neonatal intensive care unit (NICU).
Maria João Magalhães[1]; Sandra Costa[1]; Carla Sá[1]; Albina Silva[1]; Matos Marques[1]; Eduarda Abreu[1]; Bernardete Fernandes[1]; Almerinda Pereira[1].
1-Braga's Hospital. Braga, Portugal.

Friday 13th, 11:00-12:00, Session 5 – Poster Presentations

P33 - Neonatal Screening for Congenital Hypothyroidism in Portuguese Level III NICUs.
Amélia Moreira[1]; Manuel Oliveira[1]; Laura Vilarinho[2]; Rui Osório[2]; Maria José Costeira[1].
1-Centro Hospitalar do Alto Ave - Guimarães; 2-Instituto de Genética Jacinto Magalhães. Porto, Portugal.

P34 - Retinopathy of prematurity: 3 years experience.
Luísa Neiva Araújo[1]; Alexandra Almeida[1]; Eunice Moreira[1]; Jorge Breda[2]; Carmen Carvalho[1].
1-NICU Júlio Dinis Maternity - Oporto Hospital Center, Oporto, Portugal; 2-Ophthalmology Department, S. João Hospital. Oporto, Portugal.

P35 - Atypical presentation of early onset streptococcal disease: Clinical case.
Ana Castro[1]; Margarida Pontes[2]; Elisabete Coelho[2].
1- Interna de Pediatria, Hospital Pedro Hispano – ULS Matosinhos; 2-Assistente Hospitalar Graduada de Pediatria, Centro Hospitalar Póvoa de Varzim/Vila do Conde. Portugal.

P36 - Autosomal dominant transmission of congenital hypothyroidism: identification of a new PAX8 mutation.
Ana Raquel Neves Ramalho[1]; Rita Cabral[1]; Isabel Sousa[1]; Isabel Monteiro[1]; Cavaco Rodrigues[1]; Luísa Mota-Vieira[1]; Carlos Pereira Duarte[1].
1-Hospital do Divino Espírito Santo. Ponta Delgada, Azores, Portugal.

P37 - Group B Streptococcus (GBS) sepsis of late onset: the pathogenesis.
Ana Cristina Aveiro[1]; Ana Cristina Pacheco Aveiro[1]; Filomena Teixeira[1]; Carlos Magno[1]; Edite Costa[1]; José Luís Nunes[1].
1-Hospital Central do Funchal. Funchal, Portugal.

P38 - Neonatal Herpes meningoencephalitis - report of a clinical case.
Sónia Regina Silva[1]; Clara Diogo[1]; Sofia Figueiredo[1]; Luís Damas[1]; Adelaide Bicho[1]; Paula Rocha[1].
1-Hospital Infante D. Pedro. Portugal.

P39 - Floppy neonate: a case report.
Amélia Moreira[1]; Cristiana Couto[1]; Clara Paz Dias[1]; Silvana Ray[1].
1-Centro Hospitalar do Alto Ave – Guimarães. Portugal.

P40 - Hemofilia A in the neonate – Importance of familial history.
Sónia Marques[1]; Mafalda Gonçalves[1].
1-Hospital Cuf Descobertas. Lisbon, Portugal.

Friday 13th, 11:00-12:00, Session 6 – Poster Presentations

P41 - Congenital Cystic Adenomatoid Malformation Type 3: case report.
Marcos António da Silva Cristovam[1]; Nelson Ossamu Osaku[2]; Gleice Fernanda Costa Pinto Gabriel[2]; Joice Ribas[2]; Marcos M. Campos[2]; Alexandre Bueno[2].
1-Hospital Universitário do Oeste do Paraná-Cascavel-BRASIL; 2-Hospital Universitário do Oeste do Paraná.

P42 - Pulmonary hypoplasia. What can be the cause?
Nicole Silva[1]; Albina Silva[1]; Eduarda Abreu[1]; Matos Marques[1]; Carla Sá[1]; Bernardete Fernandes[1]; Inês Azevedo[2]; J. Correia Pinto[2]; Almerinda Pereira[1].
1-Hospital de Braga; 2-Hospital de S. João. Porto, Portugal.

P43 - Respiratory distress in the newborn: Diagnostic challenge.
Clara Machado[1]; Albina Silva[1]; Carla Sá[1]; Eduarda Abreu[1]; António Marques[1]; Bernardete Fernandes[1]; Almerinda Pereira[1].
1-Neonatal Intensive Care Unit, Paediatrics Department, Braga Hospital. Braga, Portugal.

P44 - Sildenafil for persistent pulmonary hypertension of the newborn: a case report.
Luísa Neiva Araújo[1]; Carmen Carvalho[1]; Elisa Proença[1]; Artur Alegria[1].
1-NICU Júlio Dinis Maternity - Oporto Medical Center. Porto, Portugal.

P45 - Spontaneous resolution of pulmonary interstitial emphysema - case report.
Raquel Soares[1]; Patrícia Silva[2]; Margarida Martins[1]; Maria José Noruegas[1]; Carlos Lemos[2]; Alexandra Dinis[1]; Carla Pinto[1].
1-Hospital Pediátrico de Coimbra; 2-Maternidade Bissaya Barreto. Coimbra, Portugal.

P46 - Bronchopulmonary dysplasia in very low birth weight infants - A 3-year analysis.
Sílvia Bacalhau[1]; Vera Viegas[2]; Ana Bettencourt[3]; João Castela[3].
1-Pediatrics Department, Hospital Santo André, Leiria; 2-Pediatrics Department, Hospital de São Bernardo, Setúbal; 3-Pediatrics Department, Maternidade Dr. Alfredo da Costa, Lisboa. Portugal.

P47 - Bronchopulmonary dysplasia – 5 years retrospective analysis.
Sara Santos[1]; Marta Parada[1]; Lígia Basto[1]; Joaquim Tiago[1]; Raquel Henriques[1]; Rosa Ramalho[1].
1-Neonatal Intensive Care Unit (NICU) – Maternidade Doutor Daniel de Matos, Hospitais da Universidade de Coimbra, Coimbra, Portugal.

P48 - A difficult diagnosis…
Manuela Costa Alves[1]; Ana Brett[1]; Victor Melo[2]; Manuel Ramos[3]; Ochoa Castro[3]; Joana Mesquita[1]; Dolores Faria[1].
1-Neonatal Intensive Care Unit of Maternity Bissaya Barreto; 2-Obstetric Department of Maternity Bissaya Barreto; 3-Pediatric Surgery Department of Hospital Pediátrico de Coimbra, Portugal.

Friday 13th, 14:00-15:00, Session 7 – Poster Presentations

P49 - How to manage a newborn baby with meconium aspiration in the delivery room.
Carina Araújo[1]; Manuela Fróis[1]; Paula Bordalo[1]; Charles Fazenda[1].
1- Neonatal Intensive Care Unit and Obstetric Emergency Room of Maternidade Dr. Alfredo da Costa. Lisbon, Portugal.

P50 - Infection control: A duty or an obligation?
Ana Rita Antunes[1]; Catarina Felgueiras[1]; Inês Silva[1].
1-Maternidade Alfredo da Costa. Lisbon, Portugal.

P51 - The development of the newborn: Care for protection in Neonatal Intensive Care Unit.
Ana Barbosa[1]; Anabela Silva[2]; Carolina Cardoso[2]; Vanda Santos[2].
1-Serviço de Neonatologia do Hospital de S. João, E.P.E, Porto; 2-Unidade de Cuidados Intensivos Neonatais da Maternidade Dr. Alfredo da Costa. Lisbon, Portugal.

P52 - Nursing newborn to perform therapy nitric oxide.
Cátia Inês Severiano[1]; Catarina Branco[1]; Vanis Candeias[1].
1-Maternidade Dr. Alfredo da Costa. Lisbon, Portugal.

P53 - Administration of surfactant: Nursing care associated.
Catarina Branco[1]; Catia Severiano[1]; Vanis Candeias[1].
1-Maternidade Dr. Alfredo da Costa. Lisbon, Portugal.

P54 - Oxygen therapy in the neonatal period: What consequences?
Catarina Branco[1]; Catarina Branco[1]; Carina Araújo[1]; Filipa Soveral[1]; Jorge Gonçalves[1]; Manuela Fróis[1]; Sónia Alves[1]; Vânia Candeias[1].
1-Maternidade Dr. Alfredo da Costa. Lisbon, Portugal.

Friday 13th, 14:00-15:00, Session 8 – Poster Presentations

P55 - Cerebral venous sinus thrombosis in neonates.
Bárbara Pereira[1]; Carla Sá[1]; Albina Silva[1]; Eduarda Abreu[1]; António Matos[1]; Bernardete Fernandes[1]; Henedina Antunes[1]; João Fernandes[2]; Jaime Rocha[2]; Almerinda Pereira[1].
1-Unidade de Neonatologia do Serviço de Pediatria do Hospital de Braga; 2-Serviço de Neurorradiologia do Hospital de Braga. Braga, Portugal.

P56 - Continuity of neonatal care in a level II unit.
Marcela Pires Guerra[1]; Andreia Oliveira[1]; Lígia Peralta[1]; Filipa Inês Cunha[1]; Adelaide Bicho[1]; Luís Damas[1]; Paula Rocha[1].
1-Hospital Infante D. Pedro. Portugal.

P57 - Intraventricular hemorrhage in preterm infants – Center experience of 5 years.
Marta Parada[1]; Sara Santos[1]; Lígia Basto[1]; Joaquim Tiago[1]; Raquel Henriques[1]; Rosa Ramalho[1].
1-Neonatal Intensive Care Unit (NICU), Maternidade Doutor Daniel de Matos, Hospitais da Universidade de Coimbra, Coimbra, Portugal.

P58 - Ischemic perinatal stroke.
Rita Monteiro[1]; Edmundo Santos[1]; Ana Nunes[1].
1-Unidade de Neonatologia, Serviço de Pediatria, Hospital de São Francisco Xavier, Centro Hospitalar de Lisboa Ocidental, EPE, Lisboa. Lisbon, Portugal.

P59 - Perinatal stroke.
Teresa Mesquita Guimarães[1]; Carmen Carvalho[1]; Pedro Pinto[2]; Romeu Cruz[2]; Paula Soares[1].
1-NICU - Júlio Dinis Maternity - Oporto Medical Center; 2-Neuroradiology Department - Oporto Medical Center. Porto, Portugal.

P60 - Stroke in the neonatal period - two clinical cases.
Sónia Regina Silva[1]; Sofia Figueiredo[1]; Paula Rocha1; Adelaide Bicho[1]; Isabel Fineza[2]; Luís Damas[1].
1-Hospital Infante D. Pedro; 2-Hospital Pediátrico de Coimbra. Portugal.

Friday 13th, 14:00-15:00, Session 9 – Poster Presentations

P61 - Extreme and very low birth weight newborns in a neonatal intensive care unit.
Dária Rezende[1]; Carla Sá[1]; Albina Silva[1]; Eduarda Abreu[1]; Bernardete Fernandes[1]; Matos Marques[1]; Almerinda Pereira[1].
1-Hospital de Braga. Portugal.

P62 - Acute kidney injury as a complication of cardiac surgery in neonatal period.
Cláudia Calado[1]; Andreia Pereira[1]; Adriana Pinheiro[2]; Sofia Deuchande[3]; Margarida Matos Silva[4]; Rui Anjos[4].
1-Hospital de Faro, EPE; 2-Hospital do Divino Espírito Santo; 3-Hospital S Francisco Xavier; 4- Hospital de Santa Cruz. Portugal.

P63 - "Self-healing" collodion baby.
Catarina Figueiredo[1]; Cristina Matos[2]; Teresa Tomé[2].
1-HPP-Hospital de Cascais; 2-Maternidade Alfredo da Costa. Lisbon, Portugal.

P64 - Herlitz subtype of junctional epidermolysis bullosa: case report.
Teresa Andrade[1]; Emília Santos[1]; Armando Laranjeira[1]; Arnaldo Rego[1]; José Rei Amorim[1]; Beatriz Sousa[1].
1-UCIN, Unidade Local Saúde do Alto Minho. Portugal.

P65 - Congenital medium sternal cleft with partial ectopia cordis.
Cláudia de Almeida Fernandes[1]; Catarina Dâmaso[2]; Gonçalo Cassiano Santos[3]; Luís Leal[3]; Manuel Pedro Magalhães[4]; Teresa Tomé[3].
1-Centro Hospitalar de Setúbal EPE; 2-Hospital Reynaldo dos Santos; 3-Maternidade Dr. Alfredo da Costa; 4-Hospital Cruz Vermelha Portuguesa. Lisbon, Portugal.

P66 - Aneurysm of the ductus arteriosus - clinical report.
Teresa Mesquita Guimarães[1]; Ana Guedes[1]; Elisa Proença[1]; Ana Alexandrino[1]; Jorge Moreira[2].
1-NICU - Júlio Dinis Maternity - Oporto Medical Center; 2-Cardiology Department - Pediatric Cardiology Service, São João Hospital. Porto, Portugal.

Friday 13th, 14:00-15:00, Session 10 – Poster Presentations

P67 - Anti-human platelet antigen (Anti-HPA) negative neonatal alloimmune thrombocytopenia (NAIT).
Ana Sofia Nicolau[1]; Edmundo Santos[1]; Ana Nunes[1].
1-Centro Hospitalar de Lisboa Ocidental. Lisbon, Portugal.

P68 - Neonatal Severe anemia - a case report.
Sónia Regina Silva[1]; Filipa Rodrigues[2]; Sofia Figueiredo[2]; Lúcia Borges[2]; Luís Damas[2]; Adelaide Bicho[2].
1-Hospital Infante D. Pedro; 2-Hospital Infante D. Pedro. Portugal.

P69 - Neonatal abstinence syndrome: 10 years at a district hospital.
David Lito[1]; Patrícia Ferreira[1]; Alexandra Carvalho[1]; Cândida Mendes[1].
1-Neonatal Care Unit - Hospital de Reynaldo dos Santos, Vila Franca de Xira. Portugal.

P70 - A newborn with swollen legs and feet.
Rita Calado[1]; Helena Ramos[1]; M. José Mendes[1]; Sandra Claro[2]; Cláudia Canhoto[3]; Helder Ornelas[1].
1- Neonatal Unit, Department of Pediatrics, Hospital do Espírito Santo de Évora E.P.E.; 2-Physical Reabilitation Department, Hospital do Espírito Santo de Évora E.P.E.; 3-Physical Reabilitation Department, Primary Health Care Unit- Borba. Portugal.

P71 - Ophthalmic drops causing apnea in an infant.
Alberto Berenguer[1]; Andreia Barros[1]; Cristina Aveiro[1]; Carmo Camacho[2]; Henrique Leitão[2]; Edite Costa[2]; J. Murta[3]; J. Luís Nunes[2].
1-Pediatric Department, Hospital Central of Funchal-HCF (Director: Dr. Rui Vasconcelos); 2-Pediatric and Neonatal Intensive Care, Hospital Central of Funchal-HCF; 3-Department of Ophthalmology - University Hospital of Coimbra. Coimbra, Portugal.

P72 - Clinical outcome of viral intestinal infection in preterm and term neonates.
Soyhan Bagci[1]; Anna M. Eis-Hübinger[2]; Atteyet F. Yassin[3]; Peter Bartmann[1]; Andreas Mueller[1].
1-Department of Neonatology, Children's Hospital, University of Bonn, Bonn D-53113, Germany; 2-Institute of Virology, University of Bonn, Bonn D-53113, Germany; 3-Institute for Medical Microbiology, Immunology, and Parasitology, University of Bonn, Bonn D-53113, Germany.

POSTERS

P01 - Pediatric presence at the delivery room.

Isabel Sampaio[1]; Leonor Boto[1]; Joana Saldanha[1].
1-Unidade de Neonatologia, Hospital de Santa Maria. Lisbon, Portugal.

Objectives: To describe the number, type and duration of calls to the delivery room (DR), and the need for resuscitation manoeuvres (RM) according to type of delivery and anesthesia. To determine other risk factors for resuscitation. ***Methods:*** Prospective study. Data collected between 1stJanuary and 31stJully2009, through completion of a questionnaire by the pediatrician on call. ***Results:*** There were 1473 deliveries: 50,4% eutocic-deliveries(ED), 19% vacuum/forceps deliveries(V/F), 11,7% elective-caesarean-section(ECS) and 18,9% non-elective-caesarean-section(NECS). Median of birthweight was 3160g (11, 5% BW<2500g). The questionnaire was filled in 462 calls (31, 3% of deliveries). According to existing protocols the estimated number of calls to DR in the same period was 749(average: 3, 5 calls/day). Average time spent at DR was 23 minutes (range:2-105min). Major indications for DR attendance were: instrumental deliveries without other risk(58%), pelvic presentation(8,2%), foetal distress(10,8%), multiple pregnancy(5,2%), prematurity(16%). RM were performed in 58 calls (12, 5%), half with endotracheal-intubation and/or drugs. 1-minute Apgar-score ≤4 (AS≤4) was recorded in 5, 2 %(n=24). In calls motivated uniquely by instrumental delivery RM and AS≤4 were less frequent(4,1% and 2,1%). 67% of RM occurred in NECS 15.5% in V/F, 10,3% in ECS and 6,9% in ED. 53,4% were premature deliveries. 19% had signs of fetal distress and 12% of pregnancies were multiple. Pediatricians considered their presence unnecessary in half of the calls, justifiable in 35% and crucial in 15%. Considering newborns with GA≥34 weeks, we found a significant association between increased need for resuscitation and NECS, fetal distress and general anesthesia and between fetal distress and AS≤4 (p<0, 05). ***Conclusion:*** We have data on 61, 6% of predicted calls to the DR. Invasive resuscitation manoeuvres were performed in only 6, 3% and half of the calls were considered unnecessary by the attending physician. The need for skilled resuscitation was considerably lower when the type of delivery was the only risk. Additional studies further defining risk factors could contribute to a more efficient use of medical resources.

Key-words: Delivery room, newborn, resuscitation.

P02 - Neonatal Asphyxia - Reality CUF Descobertas Hospital.

Filomena N. V. Pedro[1]; M.ª João Santos[1]; Filipa Marques[1].
1-CUF Descobertas Hospital. Lisbon, Portugal.

The neonatal asphyxia remains a problem in the current units Maternal and Child Health. It's clinical expression of hypoxic ischemic encephalopathy reflected in the rates of morbidity and mortality in developed countries has an incidence of 4/1000 live births. It was defined as a criterion for neonatal asphyxia: Apgar score less than 6 at 5 minutes. In a retrospective study conducted from January to December 2008 at CUF Descobertas Hospital, findings that in a total of 2965 newborns, there was no case of asphyxia (we analyzed the data for pre-natal, intrapartum and neonatal mortality). An appropriate follow-up to a woman during pregnancy (pregnancy 100% supervised), the monitoring of the development of labour through continuous monitoring of fetal maternal well-being, proper care in childbirth (eutocic: 21% - forceps / suction cup: 27% - sections: 52%) and immediate care of newborns delivered by trained professionals, are key factors that contributed to the lack of neonatal asphyxia in our hospital. It should be emphasized the importance of quality of neonatal care, with the presence of a neonatologist in all deliveries, a protocol of Life Support Neonatal Portuguese-based Council on Resuscitation and immediate care newborn/resuscitation training for all elements of the unit carried out by a team with experience in this area, as well as a good articulation of the multidisciplinary team.

Key-words: Apgar score, asphyxia, neonatal care.

P03 - Elective caesarean delivery, neonatal intensive care unit admission and neonatal respiratory distress.

Cristina Pereira[1]; Sónia Silva[1]; Gabriela Mimoso[1]; Conceição Ramos[1].
1-Maternidade Bissaya Barreto. Coimbra, Portugal.

Objective: To evaluate the relationship between elective caesarean delivery and neonatal intensive care unit (NICU) admission in full-term newborns (NB) with neonatal respiratory distress. ***Methods:*** Descriptive retrospective study from clinical records: NICU database and maternity medical processes of full-term NB admitted in the NICU with respiratory distress between January 2002 and December 2008. The association with elective caesarean delivery was determined. ***Results:*** During this period, 22510 NB were born in Bissaya Barreto Maternity Hospital, 30% of which were born by caesarean extraction. Elective caesarean delivery was done in 1509 full-term NB, and was performed before 39 weeks of gestation in 54% full-term NB. One hundred twenty six of these NB were admitted in the NICU with respiratory distress, 20% of which were born by elective caesarean. Risk factors for NICU admission in the full-term group were: male gender and elective caesarean before 39 weeks (p<0,05). ***Conclusions:*** Admission in the NICU for respiratory distress is related with the gestational age at the time of elective caesarean delivery. Elective caesarean delivery before 39 weeks of gestation is common and frequently associated with respiratory distress. This study supports the guidelines that propose elective caesarean delivery at term - 39 weeks or later.

Key-words: Elective caesarean delivery, neonatal respiratory distress.

P04 - The first day of life.

Marisa Isabel Almeida Carvalho[1]; Margarida Costa[1]; Eurico Gaspar[1].
1-Centro Hospitalar de Trás-os-Montes e Alto Douro. Portugal.

Introduction: Giving birth in Portugal is no longer at home but with specialized medical assistance. The benefits are clear, but we cannot forget that all unnecessary intervention is not free of risks. ***Objective:*** To characterize pregnancy and newborns (NB) first day of life, at the Vila Real Hospital, from July to August 2009. ***Methods:*** Data was collected by doctors and nurses over the first 24 hours of life. We analyze data relating to pregnancy, childbirth and care needs. ***Results:*** Three hundred and forty one babies were born; we collected data from 306, 54% males and 7% premature. Almost all had prenatal medical care(94%) and the serum screening identified a hepatitis B and C infection, seroconversion to CMV and to rubella.

The ultrasound revealed congenital nephrouropathies in 3% and 2% ACIU. The main risk factors for neonatal period were positivity Group B Streptococcus(5%), prolonged rupture of membranes(5%) and maternal fever(2%). There were 38% of surgical deliveries. In the delivery room the clock was used to determine Apgar score in 23%. Thirty eight percent of NB required tactile stimulation, 7% oral aspiration, 4% oxygen, 2% meconium aspiration and 2% resuscitation. There were two Apgar score under five, at first minute, and no one at 5th minute. At 10th minute all Apgar score were above 7. The nurses needed to make a short period of surveillance in incubator in 30%, blood glucose evaluation in 8% and oxygen saturation in 4%. Breast-feeding was done in 65% during the first hour of life. Newborn hospitalization was necessary in 7%, three were transferred and no deaths occurred. ***Comments:*** We conclude: 1) unsupervised pregnancy, the high number of caesarean sections and the promotion of breastfeeding should be improved; 2) hospitalization takes place in a small percentage of NB; 3) the majority received early mother care.

Key-words: First day, newborn.

P05 - Organized palliative care in a neonatal intensive care unit: do we need it?

Ana Rita Prior[1]; Dina Oliveira[1]; Filipa Sobral[1]; Laurinda Santos[1]; Graça Oliveira[1]; Margarida Albuquerque[1]; Carlos Moniz[1].
1-Hospital de Santa Maria. Lisbon, Portugal.

Children are often diagnosed with ominous vital prognosis situations from neonatal period. In order to improve the quality of life of these children and their families and to promote the respite and care through death and bereavement, it is necessary to develop a palliative care plan to apply in the Neonatal Intensive Care Units (NICUs) with the physical, emotional, social and spiritual elements that palliative care embraces. Our objective is to review when and how the palliative care is actually applicable in our Unit and to identify the necessity to create a neonatal palliative care protocol. This is a retrospective longitudinal study. Data were collected from records of all children admitted to the NICU of Hospital Santa Maria between 1st January 2006 and 31th December 2008. Medical, psychological and social measures as well as spiritual concerns were analyzed. Of the 1258 children admitted to our NICU, 49 died during the hospitalization, but only in 11, the death came suddenly and without forewarning. The palliative measures were applied to 9 of 28 children when it could be suitable. We identified 23 children discharged with ominous vital prognosis, but none was proposed for a palliative program. Very few were offered social support, mostly funeral expenses, as well as psychological guidance, not only through bereavement, but as an initial and ongoing family support. Spiritual guidance was limited to occasional baptism. Despite not having a neonatal palliative care program established in our NICU, we feel this as an urgent need. It requires a multidisciplinary team who should analyse all issues surrounding diagnosis, prognosis and possible outcomes focusing in symptom relief and global quality of life for the children and their family.

Key-words: Neonatal, palliative care.

P06 - Congenital Diaphragmatic Hernia: case report.

Marcos António da Silva Cristovam[1]; João Pedro Pontes Câmara[2]; Ana Cláudia Lopes Plewka[2]; Henrique Seki[2]; Lara Franken Ciupak[2]; Fernando Alves Konrad[2].
1-Hospital Universitário do Oeste do Paraná-Cascavel-BRASIL; 2-Hospital Universitário do Oeste do Paraná.

Background: Congenital Diaphragmatic Hernia (CDH) is a severe birth defect characterized by failure of division of the thoracic and abdominal cavities at the 8th to 10th week of fetal life. It's associated with pulmonary hypoplasia and postnatal pulmonary hypertension. Half of the cases present with other non-pulmonar congenital anomalies and in 5-10% of cases there is a chromosomal etiology. The clinical aspects are severe respiratory distress usually present at birth and abdomen may be scaphoid because of displacement of the viscera. Breath sounds in the affected hemithorax are absent, with displacement of the point of maximal cardiac impulse. Chest radiograph demonstrates displacement of the viscera. ***Treatment:*** intubation and ventilation as well as decompression of the gastrointestinal tract with a nasogastric tube, fluid and electrolyte replacement. Surgery to reduce the abdominal contents from the thorax and to close the diaphragmatic defect is performed after the infant is stabilized. ***Case report:*** a male newborn was born by a cesarean section in of an uncomplicated pregnancy without significant medical history in the family. His Apgar score was 1/2/2, gestational age: 37 weeks and birth weight: 2580g. ***Physical examination:*** Breath sounds in the left hemithorax were absent, with displacement to right of the point of maximal cardiac impulse and abdomen was scaphoid. Intubation, ventilation with positive pressure, nasogastric soft catheter and umbilical venous line were performed. Chest radiograph was performed in delivery room that confirmed the presence of diaphragmatic hernia and pulmonary hypoplasia. After being stabilized, the newborn was referral to an Intensive Care Unit. High parameters of the mechanical ventilation were used but the infant died after four hours of life. ***Conclusion:*** Despite progress in medical and surgical care the mortality rate of CHD remains high. Survivors of CDH remain a complex patient population to care for through-out infancy and childhood, thus requiring long-term follow-up.

Key-words: Congenital Diaphragmatic Hernia, neonate.

P07 - Persistent pulmonary hypertension of the newborn - a case report.

Edite Gonçalves[1]; Maria João Baptista[1]; Beatriz Guedes[2]; José Areias[3]; Hercília Guimarães[4].
1-Cardiologia Pediátrica - Hospital São João; 2-Neonatologia - Hospital São João; 3-Cardiologia Pediátrica - Hospital São João; Faculdade Medicina Universidade do Porto; 4-Neonatologia - Hospital São João; Faculdade Medicina Universidade do Porto. Porto, Portugal.

Introduction: Persistent pulmonary hypertension of the newborn is characterized by high pulmonary vascular resistances after birth, resulting in right-to-left shunting through fetal circulatory pathways. This leads to hypoxemia and respiratory failure, in the absence of congenital heart disease. ***Case report:*** The authors present the case report of a term newborn, whose birth was complicated by maternal fever. The Apgar score was 6/8/9. Due to persistent cyanosis with no response to oxygen, conventional ventilatory support and prostaglandin E1 administration was initiated. The echocardiography revealed a patent foramen ovale and a patent ductus arteriosus, both with a right-to-left shunt. The aortic arch showed some kinking with normal pulsed wave Doppler in the descending aorta. A cardiac catheterization showed a large ductus arteriosus with right-to-left shunt and hypoplastic pulmonary arteries. Inhaled nitric oxide, sildenafil and inotropic therapy were

initiated. The pulmonary arterial pressure showed progressive improvement during the first week of life. The newborn was discharged after the second week of life, maintaining therapy with sildenafil. The infant has now two months, and sildenafil was stopped as the pulmonary pressure is within normal values. ***Conclusion:*** The management of persistent pulmonary hypertension of the newborn is mainly supportive. The objective is to promote a progressive decline in the ratio of pulmonary vascular resistance to systemic vascular resistance and to maintain an adequate oxygenation until the pulmonary vascular resistance is high.

Key-words: hypoxemia, newborn, pulmonary hypertension, vascular resistance.

P08 - An unusual case of pulmonary hypertension.

Edite Gonçalves[1]; Patrícia Costa[1]; Maria João Baptista[1]; Jorge Moreira[1]; José Monterroso[1]; Otília Brandão[2]; Carla Bartosch[2]; Gustavo Rocha[3]; José Areias[4]; Hercília Guimarães[5].
1-Cardiologia Pediátrica - Hospital São João; 2-Anatomia Patológica - Hospital São João; 3-Neonatologia - Hospital São João; 4-Cardiologia Pediátrica - Hospital São João; Faculdade de Medicina Universidade do Porto; 5-Neonatologia - Hospital São João; Faculdade de Medicina Universidade do Porto. Porto, Portugal.

Introduction: Pulmonary hypertension in the newborn can have many causes, namely cardiac and pulmonary malformations, thromboembolism, infeccious diseases, and others. These are frequently difficult to find, and the therapeutic approach can be challenging. ***Case report:*** The authors present the case of a term newborn, whose gestation was complicated by hydramnios and diabetes. Fetal echocardiogram at 34 weeks' gestation showed dilatation of the right cardiac chambers. Birth was by caesarian section and the Apgar score was 5/9/9. Due to persistent cyanosis and respiratory distress after birth ventilatory support was initiated. Echocardiogram showed signs of severe pulmonary hypertension, with tricuspid regurgitation and dilatation of the right cardiac chambers, causing compression of the left ventricle; small aortic valve and arch, but without obstruction and a patent ductus arteriosus with right-to-left shunt. Cardiac catheterization confirmed the diagnosis of pulmonary hypertension, demonstrating a patent ductus arteriosus with right-to-left shunt, confluent pulmonary arteries with a dilated pulmonary trunk and peripheral pulmonary arteries of reduced calibre and abnormal peripheral pulmonary vascularization. The patient was started on sildenafil and inhaled nitric oxide, without significant clinical improvement. Possibility of closure of the ductus arteriosus was pondered, and cardiac catheterization with balloon occlusion test of the ductus arteriosus was performed. Despite this, the clinical situation continued to deteriorate and the child died before ductus closure was possible. The autopsy revealed an anomalous ramification of both pulmonary arteries. Additionally there were some abnormalities of the left sided heart, namely a small left ventricle, an abnormal mitral valve apparatus, a slightly hypoplastic aortic arch with an abnormal distribution of its vessels. ***Conclusion:*** This case report demonstrates the fact that pulmonary hypertension can be related to cardiac and vascular abnormalities. The conjunction of these two factors made it difficult to treat the patients' pulmonary hypertension and improve the clinical outcome.

Key-words: malformation, newborn, pulmonary hypertension.

P09 - Illness severity scores in ventilated preterm neonates.

Amélia Moreira[1]; Maria José Costeira[1]; Pedro Oliveira[2]; Agostinha Costa[1]; Clara Paz Dias[1]; Alice Freitas[1].
1-Centro Hospitalar do Alto Ave - Guimarães; 2-Escola de Ciências da Saúde - Universidade do Minho. Portugal.

Background and aims: Survival of less than 32 weeks preterms and in particular very low birthweight (VLBW) babies depends mostly on gestational age and birthweight. Several other perinatal conditions are reported to influence morbidity and mortality, as the severity of disease in the first hours of life. Illness severity scores intend to stratify the risk and quantify morbidity. The purpose of this study was to evaluate the usefulness of two illness severity scales, the CRIB (Clinical Risk Index for Babies) and the SNAPPE-II (Score Neonatal Acute Physiology - perinatal extension), in predicting mortality in a cohort of ventilated less than 32 weeks and/or VLBW neonates. ***Methods:*** Retrospective study. Included babies with less than 32 weeks and/or VLBW admitted to our level III NICU from January 2005 to December 2008: comparison between those who needed invasive mechanical ventilation and those who did not. Variables studied: CRIB and SNAPPE-II values, ventilation period, clinical and outcome data. Statistical analysis performed with SPSS 17. ***Results:*** In the considered period of time 68 neonates (47.5% of 143) were ventilated: 51.9% male, mean gestational age 27.3 weeks (22-32) and mean birthweight 1004.5 grams (350-2000); invasive ventilation was maintained for 4 days (1-81) and there were 15 deaths (22%). Median values of CRIB and SNAPPE-II were respectively 3 (0-19) and 42 (0-133); these values were higher in babies who had fatal outcome. Area under ROC curve was 0.89 ± 0.06 for CRIB and 0.93 ± 0.04 for SNAPPE-II in the ventilated babies. For the 143 newborns, the area under ROC curve was 0.95 ± 0.03 for CRIB and 0.97 ± 0.02 for SNAPPE-II. ***Conclusions:*** CRIB and SNAPPE-II seem to be good predictors of the mortality risk in preterm newborns. Although scores were similar in the global population, SNAPPE-II had particular greater discriminatory ability than CRIB in the ventilated.

Key-words: Illness severity scores, mortality risk.

P10 - Morbidity in twins infants.

Manuel Oliveira[1]; M. J. Costeira[1]; P. Oliveira[2]; A. Costa[1]; C. P. Dias[1]; A. Freitas[1].
1-Neonatal Intensive Care Unit (NICU) - CHAA Guimarães; 2-School of Health Sciences (ICVS), University of Minho. Portugal.

Background and aims: The prevalence of multiple births has been increasing in the last years. Multifetal pregnancies are complicated by a higher incidence of preterm labor, intrauterine growth retardation and delivery complication. Neonatal outcome of twins apparently is similar to singletons. The aim of this study was to look at the prevalence of twins less than 32 weeks and/or VLBW in our institution and to analyze morbidity and mortality in twins compared with singleton infants. ***Methods:*** We performed a retrospective review of newborn twins less than 32 weeks and/or VLBW, admitted in the NICU from January 2005 until December 2008. This group was analyzed and compared with singleton infants. Variables studied: Maternal age, mode of fertilization, CRIB and SNAPPE values, ventilation period and outcome data. Statistical analysis performed with SPSS program and ROC curve measurements. ***Results:*** In this period of time, 46 twin newborns and 97 singletons were included in this study. Mean maternal age

was 30.8 years vs 29.7 years, 21.7 twins were artificially conceived vs 2.5%, mean gestational age was 1302.5g vs 1188.1g, CRIB and SNAPPE 2 values were 2.6 and 24.6 vs 2.9 and 26.2. The outcome of both populations was similar. The only difference found was the type of delivery, 95.7% of twins were born by C-section vs 72.2% of singletons. ***Conclusions:*** These results seem to indicate that morbidity of premature twins population is similar to the premature singletons.

Key-words: Illness severity scores, morbidity risk, twins.

P11 - Cerebral function monitor - the experience of Hospital de Santa Maria's Neonatal Intensive Care Unit.

Carolina Constant[1]; Isabel Sampaio[1]; Raquel Gouveia[2]; Sandra Valente[2]; André Graça[2].
1-Serviço de Pediatria, Departamento da Criança e da Família, Clínica Universitária de Pediatria. Hospital de Santa Maria; Centro Hospitalar Lisboa Norte EPE; 2-Serviço de Neonatologia, Departamento da Criança e da Família, Clínica Universitária de Pediatria. Hospital de Santa Maria; Centro Hospitalar Lisboa Norte EPE. Lisbon, Portugal.

Background: An amplitude-integrated electroencephalography (aEEG) or cerebral function monitor (CFM) is a relatively simple device used to measure the background electrocortical activity of the brain and to detect electrical seizures. It has become a very useful tool in the diagnostic, therapeutic and prognostic approach of various neonatal neurologic situations. ***Objective:*** To characterize the first year of experience using the CFM in our Neonatal Intensive Care Unit, describing its indications, findings and limitations. ***Methods:*** Retrospective analysis of clinical charts and CFM recordings of all patients monitored during the first year of use of the Olympic CFM 6000 at our unit (October2008-September 2009). ***Results:*** During the study period 17 babies were monitored/18 tracings (10 boys, 8 preterm, 4 with very low birth-weight). Indications for CFM use were: seizures/suspected seizures (n=14), neonatal asphyxia (n=1), coma (n=1) and post cardiac arrest (n=1). Hydrogel electrodes were used more often than needles (n=10). Average monitoring time was 30h (3-78h). Pathological tracing occurred in 10 patients (59%): abnormal background activity in 4, absent/doubtful sleep-wake cycling in 8 and seizures in 6 (which correlated with clinical seizures in only one patient). ***Conclusions:*** The ability to monitor cerebral electrical activity is increasingly been recognized as an essential component of neonatal intensive care. This work describes the first year of CFM use at our unit. Increasing acceptance of this technique was noted by nurse and medical staff, leading to an improvement in monitoring skills and trace interpretation. Patients with varied clinical problems were monitored but the main indication for CFM use was seizure activity. We consider the CFM a simple and accurate clinical tool, allowing a better diagnosis and treatment of seizures. The very small number of hypoxic-ischemic encephalopathy cases did not allow acquisition of experience in its use for prognostic purposes, which constitutes one of the CFM's main indications.

Key-words: Amplitude-integrated electroencephalography, cerebral function monitor, neonatal seizures.

P12 - Cerebral function monitor interpretation - a simple and useful skill to acquire.

Isabel Sampaio[1]; Carolina Constant[1]; Raquel Gouveia[2]; Sandra Valente[2]; André Graça[2].
1-Serviço de Pediatria, Departamento da Criança e da Família, Hospital de Santa Maria, CHLN; 2-Serviço de Neonatologia, Departamento da Criança e da Família, Hospital de Santa Maria, CHLN. Lisbon, Portugal.

Objectives: Compared to conventional EEG, amplitude-integrated electroencephalography (aEEG) or cerebral function monitor (CFM) interpretation is relatively simple and is easy to learn by unskilled users. Therefore it has become a very useful tool for cerebral electric activity monitoring in the NICU. The purpose of this work is to compare the interpretation made by unskilled users after reading a manual with its basic principles, with the one done by an experienced user. ***Methods:*** Evaluation of computer records of patients submitted to aEEG monitoring during the first year of its use in our NICU (October 2008 - September 2009). Comparison between the interpretation of skilled and unskilled users. We studied minimal and maximal impedance, background activity, sleep-wake pattern and seizures. The statistical tests used were: McNemar test on nominal data and Wilcoxon test on numeric variables. ***Results:*** We studied the records of 17 newborns with varied pathology. There was a strong agreement in all assessed categories, especially in the background activity and sleep-wake pattern evaluation. In seizures detection there were some non-significant differences with respect to its classification as sporadic or frequent. ***Conclusion:*** aEEG interpretation learning is a simple process, enabling its easy implementation in the NICU, where it can be a very useful tool in the diagnostic, therapeutic and prognostic approach of various neonatal neurologic situations.

Key-words: Amplitude-integrated-electroencephalography (aEEG), cerebral function monitor(CFM), neonatal seizures.

P13 - What is the risk to be a late pre-term?

Ana Raquel Neves Ramalho[1]; Glória Silva[1]; Ana Faro[1]; Cavaco Rodrigues[1]; Fernanda Gomes[1]; Pereira Duarte[1].
1-Hospital do Divino Espírito Santo. Ponta Delgada, Portugal.

Introduction: Prematurity is the major determinant of neonatal mortality and morbidity. The "late-preterm" born between 34-36+6 weeks gestation account for most of pre-term births. This population has often the weight of some term infants but for their physiologically and metabolically immaturity they represent a risk population. ***Objectives:*** Identify risk factors associated with a poor outcome in late pre-terms and characterize perinatal complications. ***Methods:*** Retrospective study concerning all late pre-term born between 2001 and 2002 in our institution and comparing with a random sample of 180 term infants. Prenatal (maternal age, parity, obstetric risk) and delivery (type, gender, birth weight, Apgar score) information were analyzed and correlated with the perinatal problems and admission in neonatology care unit. We further studied readmissions in perinatal period and medical problems detected in children followed in as an outpatient. The data was statistically analyzed. ***Results:*** In this period 3 890 deliveries were registered, 197 (5%) corresponding to late pre-terms, and 99 (2,5%) pre-terms. The groups of random sample and late pre-terms had no statistical difference concerning maternal age, newborn sex, and type of labor, but we found more fetal distress signs in late pre-term with cesarean delivery (12,6% versus 8,6%). Obstetric risk was present in 50,2% in pre-term labors and 20,0% in control group. Perinatal problems, hospitalization time and medical interventions, were more prevalent in late pre-term group.The admission in intensive care unit was needed in 32% of the pre-term children and 2,65% in the control group. In the studied group, there were 2 neonatal deaths, 12% recurred to urgent medical assistance in perinatal period and

2% were readmitted. For the long term follow-up 9,6% had reported neurodevelopmental problems. ***Conclusion:*** Gestational age represents the most important variable predicting perinatal outcome. Although the prevalence from neurodevelopmental problems doesn't reflect an increase as expected from prematurity the authors admit an underestimation of the problem.

Key-words: Late pre-term, newborn, pre-term delivery.

P14 - Craniosynostosis in neonatal period... What diagnosis?

Ângela Isabel Miguel Dias[1]; Bernarda Sampaio[1]; José Luís Fonseca[1]; Maria José Costeira[1]; Margarida Vilarinho[2]; Helena Carreira[5]; Luísa Malheiro[1].
1-Centro Hospitalar do Alto Ave - Guimarães; 2-Centro Hospitalar do Médio Ave – Famalicão. Portugal.

Introduction: Craniosynostosis consists of premature fusion of one or more cranial sutures and often results in an abnormal head shape. It may be primary (results from a primary defect of ossification) or secondary (results from a failure of brain growth primary craniosynostosis). Incidence is 0.04-0.1%, of which 2-8% are primary craniosynostosis. Diagnosis may be evident at birth or in infancy due to craniofacial abnormalities. ***Case report:*** Female newborn of uncomplicated pregnancy assisted in hospital consultation due to mother's age (40 years), without significant medical family history. Third trimester prenatal ultrasound revealed trefoil-like head shape, suggesting cranyosinostosis. Physical examination after birth showed turribrachycephaly with frontal bossing, sagittal suture ridge, mild midface hipoplasia, ocular proptosis and low-set ears. No syndactyly was found. Cranioencephalic CT findings were compatible with Crouzon Syndrome. The newborn was oriented to Neonatology Consultation, to guide the multidisciplinary approach needed. ***Discussion:*** Crouzon syndrome, defined as the triad of calvarial abnormalities, facial anomalies and exophtalmos is a rare genetic disorder with a reported birth prevalence of 1/60000. It results from mutations in gene encoding fibroblast growth factor receptor-2 (FGFR2). Some cases have autosomic dominant inheritance, others are sporadic. Authors report a case of this rare and heterogeneous clinical entity, pointing out the importance of prenatal suspicion and early diagnosis in this case, allowing multidisciplinary approach, familiar genetic counseling and management of complications to allow better outcomes.

Key-words: Cranyosinostosis, Crouzon syndrome.

P15 - X-linked hypohidrotic ectodermal dysplasia: a new mutation.

Daniela Alves[1]; Beatriz Sousa[2].
1-Hospital S. João; 2-Unidade Local de Saúde do Alto Minho. Portugal.

Abstract: X-linked recessive hypohidrotic ectodermal dysplasia is characterized by hypotrichosis, hypohidrosis and absent or anomalous teeth. It is one of the most common ectodermal dysplasias which have been described for over 150 years. These genodermatoses are classified based on the clinical features of affected individuals. We present a case of two year old male exhibiting clinical features of ectodermal dysplasia in whom a new mutation was found. The hypothesis of ectodermic dysplasia was considered at birth based on the typical facies, as well as overall dry skin and absence of scalp hair, lashes and eyebrows. At the age of 18 months no tooth had yet erupted. Imaging studies confirmed anodontia. A sweat test documented the hypohidrosis. The genetic tests showed a new mutation on the EDA1 gene c.81_82delTG (p.Cys27TrpfsX72) which introduces a premature Stop causing reduced expression of the gene's mRNA. The child's mother presented fine and dry hair, and the genetic tests confirmed her as a carrier of this mutation. Genetic diagnosis of ectodermal dysplasias has an important role and potential impact on patients and their families regarding future offspring. Furthermore, the general use of genetic tests could provide a new classification system of ectodermal dysplasias and possibly their specific complications and prognosis.

Key-words: ectodermal dysplasia, genetics, mutation.

P16 - Incontinentia pigmenti - a case report.

Sónia Santos[1]; Rita S. Oliveira[2]; Vítor Bastos[2]; José Matos[3]; Isabel Andrade[2].
1- Departamento de Pediatria, Hospital S. Teotónio, Viseu; 2-Departamento de Pediatria, Hospital S. Teotónio, Viseu; 3-Departamento de Dermatologia, Hospital S. Teotónio, Viseu. Portugal.

Introduction: Incontinentia pigmenti (IP) is a rare X-linked dominant neuroectodermal multisystem disorder. This disease has an incidence of 1:50.000 births and is typically lethal in males, in utero. ***Case report:*** A full-term female was born by normal vaginal delivery after an uneventful pregnancy. Her parents were consanguineous and the mother was a healthy GIIIPII, with a miscarriage in the first pregnancy. The girl was well at birth, with Apgar score of 9 and 10 at 1st and 5th minute, respectively, with 3350 g of weight. Papulovesiculous eruptions on an erythematous base on forearm were observed on the first day which increased, and a particular linear pattern was seen. The remaining clinical exam was normal. To despite infectious diseases an analytic study was made and the eosinophil count was 4,4% (normal range 1-3%). Suspecting IP, a skin biopsy was made which supported the diagnosis. The ophthalmologic and hearing exams were normal. A transfontanellar ultrasonography revealed "hyperechoid focus on the basal ganglia, suggesting microvascular disease". A genetic study was requested, without results yet. This child is followed by Neonathology and Dermathology, with a development and growth within the normal parameters. ***Discussion:*** The IP is a potentially serious clinical entity, which requires an early diagnosis and multidisciplinary follow-up through life.

Key-words: Incontinentia pigmenti, newborn, papulovesiculous eruptions.

P17 - Lack of accuracy in detecting prenatal alcohol exposure - medical error?

Maria José Costeira[1]; Andreia Brízida[2]; Carmina Rei[2]; Joana Cruz[2]; Josefina Pereira[2]; Liliana Bastos[2]; Mariana Campos[2]; Maria Xavier[2].
1-Serviço Neonatologia, CHAA, EPE, Guimarães; 2-Faculty of Education and Psychology, Portuguese Catholic University, Porto. Portugal.

Objectives: The prevalence of what is nowadays defined as medical error in health care has generated immense interest. It is important to recognize that a degree of error is inevitable in any human task, including in health care. Obtaining accurate information about prenatal alcohol exposure is particularly important because of the risks for negative neonatal and later

neurobehavioral outcome, ranging from subtle developmental problems to fetal alcohol syndrome. In this work we pretend to present data about detection of children prenatally exposed to alcohol, born at a Hospital Unity of North of Portugal between 2005 and the first 6 months of 2009, and discuss error prevention in detecting prenatal alcohol exposure. ***Methods:*** We performed an analysis of reports of maternal consumption /prenatal exposure in informatics and paper medical records from 2005 to 2009. Children were identified as prenatally exposed to alcohol if a direct description was found on any part of their process. Data about pregnancy, labor, neonatal period or later developmental characteristics, number of emergencies and hospitalizations were analyzed. ***Results:*** As preliminary results were being analyzed, it became apparent that data related to the number identified children (N=13) were not compatible with informal reports of clinicians and Social Services Professionals, total number of births per year and national and international statistics about alcohol consumptions. This poster presents the descriptive analysis of the group identified and a brief discussion about limitations on the accuracy in detecting prenatal alcohol exposure. ***Conclusions:*** The fetal exposure to alcohol is currently under-diagnosed. Causes may range from under-reporting to excessive cultural tolerance and under-registration of the health care providers. Adequate diagnosis is critical to early intervention of the affected children. We hope that this work represents an alert to the future and a step to error prevention.

Key-words: Developmental; error prevention; pre-natal alcohol exposure.

P18 - Intestinal obstruction in the newborn: five years casuistic in a neonatal intensive care unit.

Cristina Pereira[1]; Margarida Fonseca[1]; Gabriela Mimoso[1]; Dolores Faria[1].
1-Maternidade Bissaya Barreto. Coimbra, Portugal.

Objective: To evaluate the prevalence, epidemiology, clinical manifestations, diagnosis, treatment and outcome of newborns admitted at the Neonatal Intensive Care Unit (NICU) of Bissaya Barreto Maternity Hospital with intestinal obstruction over a period of five years. ***Methods:*** Review of newborns' charts with intestinal obstruction admitted to the level III unit, from 1 January 2004 and 31 December 2008. ***Results:*** Twenty five patients were diagnosed with intestinal obstruction accounting for 0.16% of the births (25/16079); 2% of NICU admissions (25/1318). Mean gestational age (GA) and birth weight were 35±3,7weeks (median 37 weeks) and 2638±836g (median 2695g), respectively. The male:female ratio was 1:0,8. Prenatal evaluation detected 13 of cases, from these 8% were detected in the first trimester. Eleven had a normal kariotype, one had trisomy 21 and one had cystic fibrosis. Another Down syndrome was detected in postnatal assessment. Seventy two% initiated the symptoms in the first day of life. Sixty four% had bilious vomiting and/or abdominal distension. Inspection of the perineum diagnosed 2 imperforate anus and 2 anorectal anomalies. All of them had a plain radiography of the abdomen that revealed double-bubble sign in 4/4 duodenal atresia and distention of the bowel proximal to the obstruction in the other cases. Were diagnosed 48% proximal obstructions (5 jejunoileal atresia, 4 duodenal atresia, 2 volvulus, 1 malrotation) and 52% distal obstruction (4 Hirchsprung disease, 4 anorectal anomalies, 3 meconium plug syndrome, 2 meconium ileus). Six were treated medically with: N-acetylcysteine (2), enemas (2) and gastric decompression (2). Nineteen required surgery. Survival rate was 100% at discharge. ***Conclusions:*** Bowel obstruction in the newborn is one of the most common newborn surgical emergencies. The neonatologist and pediatric surgeon must work together, allowing the diagnosis to be quickly established and therapy to be rapidly implemented.

Key-words: Intestinal obstruction, newborn.

P19 - Neonatal ovarian cyst.

Alexandre Braga[1]; Joao Pinto[2]; Gabriel Madureira[3]; Cidade Rodrigues[2]; Carmen Carvalho[1].
1-Neonatal Intensive Care Unit, Júlio Dinis Maternity, Oporto Medical Center; 2-Paediatric Surgery Service of Hospital Maria Pia, Oporto Medical Center; 3-Gynecology-Obstetrician Service Júlio Dinis Maternity, Oporto Medical Center. Porto, Portugal.

Introduction: Ovarian cysts are seldom mentioned in newborns, especially with regard to prenatal diagnosis. They may represent physiologic cysts or benign or malignant neoplasms. Most are unilateral although both ovaries can be involved. Simple cysts less than 2cm are physiologic but larger and complex cysts are more likely to be pathologic. It is important to establish an early diagnosis in order to reduce the risk of complications such as ovary torsion and also to improve the prognosis for those lesions that are malignant. ***Patient presentation:*** female infant, born at term to a young mother with negative serologies, via caesarean section. Antenatal diagnosis of ovarian cyst performed at 31st week during a routine ecography. Birth weight appropriated for gestational age, Apgar score: 9/10. Normal physical examination except umbilical hernia. Postnatal abdominal ultrasound showed ".left adnexial region with complex cystic lesion with 43 mm with multiple internal ecos and vegetation with 20mm.". The neonate was referred to the Paediatric Surgery Service. The pre-surgery analysis showed an increase in alpha-fetoprotein (α-FP - 438.6 ug/L), but Cancer Antigen 125 (CA-125) and carcinoembryonic antigen (CEA) were normal. At the 6th week of life, the patient was submitted to laparoscopic surgery which revealed left ovarian torsion associated with a large necro-haemorrhagic cyst. A salpingo-oophorectomy was performed. Post-surgery had no complications. The histological analysis showed ".cyst wall without internal epithelium lining, with large necrosis, and foci of dystrofic calcification", suggestive of complex ovarian cyst. ***Discussion:*** The authors discuss the management option for treatment of a neonatal ovarian cyst and emphasize the antenatal diagnosis to establishing an early detection which otherwise might had been missed.

Key-words: Adnexial cyst, complex ovarian cyst, neonate.

P20 - Craniosynostosis: neonatal clinical suspicion.

Maria João Magalhães[1]; Joana Dias[1]; Carla Sá[1]; Albina Silva[1]; Eduarda Abreu[1]; Matos Marques[1]; Bernardete Fernandes[1]; Almerinda Pereira[1].
1-Braga's Hospital. Braga, Portugal.

Introduction: Craniosynostosis (CS) affects 1 in every 1800 live births and results from premature fusion of one or more cranial sutures, restricting the growth of the skull perpendicular to the affected suture. The resulting skull deformity is dependent upon which suture(s) is/are involved and its careful assessment should be part of the newborn physical examination. While the relationship between surgical correction and changes in neurodevelopment remains unclear, the early diag-

nosis and referral of the patients is crucial to obtain optimal cosmetic benefit of therapy. ***Clinical cases:*** The authors describe the clinical cases of 5 newborns, all male, with CS. The suspicion arose after birth, based on findings of physical examination carried out at the Nursery. The forms of presentation that gave rise to suspicion of CS were: scaphocephaly, macrocephaly, prominent forehead, peculiar facies and plagiocephaly. All patients underwent computed tomography with three-dimensional surface reconstruction for definitive diagnosis, in ages that ranged from 7 days to 7 months. One had sagittal CS, 2 sagittal and metopic CS, 1 left coronal CS and 1 right coronal CS. All of them were referred to Pediatric Neurosurgery. Two underwent surgical correction, at 8 and 10 months of age. One still awaits surgery that is scheduled to 14 months and another one awaits the 1st Pediatric Neurosurgery consultation. In one case the parents refused surgery. Currently, all have appropriate psychomotor development. ***Conclusion:*** The first contact with the newborn in the Nursery can be crucial to the diagnosis of CS, since it is primarily based upon physical examination. Further radiographic or molecular studies may be made. Early diagnosis is imperative for optimal care of patients, which requires a multidisciplinary approach. Typically, surgery repair is indicated for increased intracranial pressure, cosmetic reasons or other complications as strabismus.

Key-words: Craniosynostosis.

P21 - Bloch-Sulzberger syndrome - clinical case.

Liliana Pinheiro[1]; Susana Carvalho[1]; Carla Sá[1]; Albina Silva[1]; Eduarda Abreu[1]; Matos Marques[1]; Ana Paula Vieira[1]; Almerinda Pereira[1].
1-Hospital São Marcos. Braga, Portugal.

Introduction: Incontinentia pigmenti (IP) or Bloch Sulzberger syndrome is a rare neurocutaneous disease with an incidence of 1 case per 40 000. Is X-linked, dominantly inherited disorder of skin pigmentation that often is associated with ocular, dental, and central nervous system abnormalities. In most cases have a genomic rearrangement of the gene for NEMO. Is characterized in the neonatal period by an erythematous and vesicular-bullous rash located mainly in the lower limbs. The prognosis depends on the presence and severity of extracutaneous manifestations. ***Clinical report:*** The authors present the clinical case of a newborn full-term female, with irrelevant obstetric or familiar history, admitted in the neonatal unit in the 2th week of life with the diagnosis of ALTE. At the emergency department he was hemodynamically stable and clinically well. At physical examination were noted papular-vesicular lesions with erythema at the right lower limb, some of them with overlying hyperkeratosis. Laboratory findings showed peripheral eosinophilia (1100/μL). During neonatal care there were no more episodes of ALTE and the newborn stayed clinically well. The vesicular rash in a newborn together with peripheral eosinophilia raised the diagnostic of IP. Skin biopsy showed morphologic features compatible with the suspicion. Mutation of NEMO gene is in course. Ophthalmologic examination and transfontanelar ultrasound were normal. Newborn`s family was oriented for genetic counseling. ***Discussion:*** Clinical case is presented for its rarity and clinical interest. IP should be included in the differential diagnosis of a newborn with skin changes like vesicular or papular. Early diagnosis of this entity is essential to minimize mortality and morbidity of extracutaneous manifestations. Clinical and pathohistological diagnosis together with molecular analysis are a part of a conventional procedure for every congenital skin disorder. In this particular case the genetic testing, by which the disease was finally proven, gave the basis for family counseling.

Key-words: Female infant, Incontinentia pigmenti, mutation, NEMO gene.

P22 - Lessons from diarrhea in a premature newborn: C. difficile and cow's milk allergy.

Sílvia Jorge[3]; Catarina Figueiredo[3]; Carla David[1]; Manuela Santos[1]; Filipa Santos[2]; Célia Iglésias[1].
1-Serviço de Pediatria, Maternidade Alfredo da Costa, Lisboa; 2-Unidade de Gastrenterologia, Hospital Dona Estefânia, Lisboa; 3-Serviço de Pediatria, HPP Hospital de Cascais, Cascais. Portugal.

Background: Etiologic diagnosis of diarrhea in newborns can be challenging. *Clostridium difficile* infection, a leading cause of nosocomial diarrhea in adults, is less well characterized in pediatric patients. Colonization occurs in 40-60% of neonates born in hospital, declining afterwards. Symptomatic disease, uncommon in neonates, increases with age. Altered fecal flora (most commonly by antibiotic use) favors *C. difficile* overgrowth. Pathogenic strains produce toxin A and/or B, which act on enterocytes causing from mild diarrhea to fulminant pseudomembranous colitis. Diagnosis stands on clinics and fecal identification of toxin. Treatment includes metronidazole and discontinuation of inciting antibiotics. Recurrences are a concern. Cow's milk allergy is a heterogeneous disease spectrum encompassing various syndromes. In some of its forms, symptoms may begin within the first weeks of life. ***Case Report:*** Male neonate, born at 34+ weeks' gestacion. Began enteral feeding on day 1 of life (breast milk and formula), full by day 15. On day 18 he developed bloody diarrhea and became septic. Broad spectrum antibiotherapy was started and he was kept nil orally, with good evolution. Blood culture was negative and *Klebsiella pneumoniae* was recovered from stool specimen. On day 32 diarrhea recurred, with rise of inflammatory markers, and he commenced antibiotics. After recovery of *C. difficile* toxin A from stool, appropriate treatment was instituted. He was discharged on day 48. After 2 weeks asymptomatic diarrhea restarted, becoming bloody, with failure to thrive though on extended hydrolyzed formula. Colonic biopsy was compatible with allergic colitis. He did well after switching to an amino-acid based formula. ***Comments:*** This case, by its evolution, draws attention to infrequent causes of diarrhea in newborn infants, and emphasizes the need of clinical alert for the diagnosis of *C. difficile* infection. Newborns in NICU, for host factors and frequent use of broad spectrum antibiotics, are a population at risk.

Key-words: Clostridium difficile, cow's milk allergy, diarrhea, newborn.

P23 – (Not available for publication)

P24 - Neurodevelopment outcome of very low birth weight preterm infants.

Rita S. Oliveira[1]; Pedro Fernandes[1]; Joana Campos[1]; Cristina Faria[1]; Cecília Figueiredo[1]; Isabel Andrade[1].
1-Departamento de Pediatria, Hospital de São Teotónio. Viseu, Portugal.

Introduction: During last decades, the development on neonatal medicine allowed to reduce significantly the mortality of

very low birth weight preterm infants, generating a heterogeneous group that have a greater relative risk of neurosensorial and development problems. ***Objectives:*** In this retrospective study, the authors examine the neurodevelopment outcome of very low birth weight preterm infants born between January 2000 and December 2006 that have regular follow-up in our hospital. ***Material and Methods:*** General development was assessed with the Griffiths scale, and infants were classified as having done the Griffiths test or not; the group that haven´t done this test were analyzed according to the evaluation made by Mary-Sheridan Test. Otorhinolaryngologic and Ophthalmologic registries were assessed. ***Results:*** The total sample was composed by 139 children, and the majority (53%) belongs to feminine sex, born with 30-31 weeks of gestational age, with an average birth weight of 1230g. 51% (n=71) have made Griffiths Test, which was implemented at a median age of 30 months; the majority (82%) here a general quotient greater or equal to 80. In the group evaluated only by Mary-Sheridan Test, only 7 (5% of the total sample) children have a development delay. All the children were evaluated by Otorhinolaryngology and Ophthalmology, and only 2 of them have decreased audition and 3 of them ophthalmological alterations in consequence of prematurity retinopathy. ***Conclusion:*** From the group of very low birth weight preterm babies analyzed, 14% (n=20) have neurosensorial or development sequels. The results in Griffiths Test were lower between the groups born with 26 to 29 weeks of gestational age. The implementation of a multidisciplinary follow-up method is imperative to minimize the added risk of this type of problems.

Key-words: Neurodevelopment, very low birth weight preterm.

P25 - Congenital syphilis: an eight year casuistic study at a level II institution.

Lia Rodrigues e Rodrigues[1]; Eliana Oliveira[1]; Cláudia Ferraz[1]; Maria José Costa[1]; Agostinha Souto[1].
1-Hospital Pedro Hispano, ULS Matosinhos. Matosinhos, Portugal.

Introduction: Congenital syphilis (CS) is a preventable disease and its presence reflects a failure of prenatal care and syphilis control programs. The aim of this study was to evaluate CS surveillance at our institution, assess the evaluation and management of newborns (NB) at risk for congenital syphilis and to describe maternal socio-demographic data. We studied NB at risk for congenital syphilis during an 8-year period (2001-2008) trough medical record review. ***Patients presentation:*** During the study period there were 17019 live births at our institution, 53 of whom were NB at risk for congenital syphilis (0, 31%). We observed a steady increase in the number of cases through the 2003-2006 years, with a peak of 12 cases in 2006 and then a decrease until 2008. The majority of cases classified as a III-IV Graffar' score. Although 71,7% attended prenatal care, there were still 15,1% pregnant women that weren't screened at all. Concomitant sexually transmitted diseases were present in 15, 1%, most of all hepatitis C virus co-infection in women with history of drug abuse. Of 40 women with syphilis' treatment indications, 25 (62,5%) received adequate treatment, frequently in the first or second trimester of gestation. Of the 53 mother-infant pairs identified, 18 infants (34%) were classified as probable CS, and 78% were treated, 86, 2% with an intravenous penicillin regimen. None of the infants met the definition of a confirmed case. Lumbar puncture was performed in 47,2%, with only one VDRL positive case with otherwise normal CSF evaluation. Overall 20 (57,1%) of 35 noncases had some evaluation for CS (eg, analytic and/or imagiologic) and 43% were treated. During the follow-up period all children became VDRL seronegative most of them before the sixth month of life. ***Discussion:*** In low-incidence areas evaluation and management of NB at risk for CS are particular challenges for clinicians.

Key-words: congenital syphilis; prenatal screening.

P26- Neonatal HSV: a dangerous disease - three clinical cases.

João Pinho[1]; Cláudia Calado[1]; Maria J. Virtuoso[1]; Maria J. Castro[1]; Carla Mendonça[1].
1-Serviço de Pediatria - Hospital de Faro, E.P.E. Faro, Portugal.

Abstract: Neonatal Herpes Simplex Virus (HSV) infection can be severe, depending on the location. Most survivors from Central Nervous System or systemic infection have neurological sequelae. Up to 70 % of newborns infected are born of asymptomatic mothers. If neonatal infection is suspected, swabs of vesicles, oropharynx, rectum and conjunctiva should be taken, as well as blood, urine and CSF for PCR. Early treatment is fundamental to improve outcome. It is associated with a high rate of morbidity and mortality (80% with no treatment). We present three clinical cases of herpes encephalitis identified in the last ten years. ***Case 1:*** 33 week premature, NVD, perinatal asphyxia. Episodes of apnea and limb hypertonia on day 2, non specific EEG. On day 7 convulsions, CSF with elevated cells and protein, PCR HSV inconclusive. EEG: left temporal spike wave with generalization. Treated with Acyclovir from day 7, for 21 days. MRI abnormal. Skin vesicles noted on D47, positive for HSV by PCR, with good response to repeat Acyclovir, but multiple recurrences. At 7 months of age, severe developmental delay and tetraparesis. ***Case 2:*** Newborn admitted at 12 days with fever and clonic movements of the right limbs. CSF had increased cells and protein, PCR HSV1 positive. EEG with diffuse slow wave activity. MRI abnormal. Treated with Acyclovir from day 1 (21 days) with improvement. Recurrent Herpes encephalitis at 2 years of age. At 5 years, presents with epilepsy, global developmental delay and tetraparesis. ***Case 3:*** Newborn admitted at 28 days with status epilepticus. CSF with elevated protein, PCR for HSV negative. Suspended Acyclovir with deterioration. Repeat CSF (D5) positive for HSV 2. EEG with generalized epileptiform discharges and left spike wave activity. MRI abnormal. Death at 3,5M.

P27 - Group B Streptococcus in a neonatology unit: Case series.

Catarina Magalhães[1]; Manuel Oliveira[1]; Susana Soares[1]; Alice Freitas[1].
1-Unidade de Neonatologia, Centro Hospitalar do Alto Ave, Guimarães. Portugal.

Aims: To study the newborns with documented Group B Streptococcus (GBS) infection. ***Methods:*** Retrospective descriptive study based on review of clinical records of newborns admitted to the Neonatology Unit with positive cultures to GBS between January 2001 and December 2008. ***Results:*** Of the 42 cases (M:40%; F:60%), 76,2% occurred between 2001 e 2004. Maternal age ranged from 18 to 39 years (7% had less than 20 years). The rupture of membranes was over 18h in 34%, and 52% were eutocic deliveries. Fetid or meco-

nial amniotic fluid was documented in 8%. Gestational age ranged from 32 to 41 weeks, 81% were term labors. In 12% of cases the neonate was low birth weight (min.:1895g). The infection presented in the first day of life in 75%, and after the third in 22%. The main diagnosis were sepsis (76%), meningitis (10%) and pneumonia (5%). SGB was isolated from blood (98%) or cerebrospinal fluid (10%). Half needed intensive care. Hospitalization varied from 9 to 30 days. On discharge, 5% had sequels. Vaginal cultures to GBS were obtained during pregnancy in 8 cases (6 between 2006 and 2008), and 3 of them were positive (no intrapartum antimicrobial prophylaxis). Of the 19% preterm deliveries, 38% received prophylaxis. Of the 10% peripartum maternal fever cases, 25% received prophylaxis. When prolonged rupture of membranes was present, 7% had prophylaxis. ***Conclusions:*** The decreasing number of cases is very likely associated with pre-natal screening for SGB. Guidelines concerning screening and prophylaxis were introduced, in order to diminish vertical transmission, standardizing procedures. Articulating with ambulatory thru data sharing and training is a goal to achieve.

Key-words: Group B Streptococcus, infection, neonatology.

P28 - Congenital toxoplasmosis.

Gabriela Pereira[1]; Isabel Soro[1]; Alexandra Almeida[1]; Cristina Godinho[1].
1-Júlio Dinis Maternity, Centro Hospitalar do Porto - Porto, Portugal.

Background: Congenital toxoplasmosis involves serious difficulties in establishing the diagnosis in newborn (NB). The follow-up of these children is a challenge for the Pediatrician. ***Aim:*** Characterization of clinical, laboratory and treatment course of infant whose mothers acquire acute toxoplasmosis during pregnancy. ***Methods:*** A prospective evaluation of the follow-up protocol of infants whose mothers acquire acute infection during pregnancy, born between January1st 2007 and May31th 2009. ***Results:*** From a universe of 7534 deliveries, we identified 12 women with acute infection during pregnancy, of which 2 had preconceptional serology. Seroconversion has been documented in the 1st trimester on 4/12, in the 2nd on 4/12 and in the 3rd on 4/12. Amniocentesis was performed in 7/12 pregnant women with mean gestational age of 20.7 weeks. DNA detection by PCR in amniotic fluid was negative in all cases. Fetal ultrasound revealed no changes. Therapy with spiramycin has been performed in all pregnant women. All NB were asymptomatic. Transient elevated transaminases were detected in 1 case. Cerebral spinal fluid was normal in 10/12 and inconclusive in the other 2. All NB underwent cerebral ultrasound and ophthalmologic examination, with normal findings. Pending the final results, all NB started therapy, 4/12 with spiramycin and 8/12 with pyrimethamine, sulfadiazine and folinic acid. Congenital toxoplasmosis was confirmed in 1/9 children; it is not yet possible to exclude infection in 3 (all with follow-up < 12 months). Adverse effects have been documented in 5/12, all treated with triple therapy. ***Conclusions:*** Despite recent technical advances, the diagnosis of congenital toxoplasmosis continues to be complex. It is difficult to decide not to treat, when the definitive diagnosis can only be achieved by the year of age and the effects of the disease may appear years after the infection. Furthermore, therapy is very aggressive, prolonged and with significant side effects.

Key-words: Congenital toxoplasmosis, follow-up.

P29 - Neonatal group B streptococcal disease screening and prevention - Evaluation of a protocol.

David Araújo[1]; Rute Alves[1]; Joana Teixeira[1]; Lara Adelino[1]; Mara Andrade[1]; Ana Gonçalves[1]; Miguel Jeri[1]; Ana Nunes[1].
1-Intensive Care Unit of Júlio Dinis Maternity - Centro Hospitalar do Porto, Oporto. Porto, Portugal.

Background: Streptococcal colonization of the vagina of pregnant woman can be transferred to newborn and induce septic disease. Júlio Dinis Maternity (JDM) has an ongoing protocol since November 2002 and prevalence of early-onset Group B Streptococcus (GBS) infection in the last 3 years was zero. The aim of this assignment, as our Project of Therapeutics Discipline in Medical Course, was to evaluate the implementation and efficiency of the guidelines for screening and prevention of perinatal GBS disease, in use in JDM. ***Material/Methods:*** We analyzed, retrospectively, clinical records of 421 pregnant women and their 433 offspring born in a two months period - between September 30th and November 30th 2008. We abstracted data from the prenatal care, labour, delivery and newborn condition. ***Results:*** There was high adherence (88%) to the screening and the rate of GBS carriers (18%) matched international results. Chemoprophylaxis guidelines were effective - no newborn sepsis reported. However, 16% of GBS-positive pregnant women did incomplete or no prophylaxis. 5% of the GBS-positive women received ampicillin instead of the indicated penicillin. Of the newborns with indication for screening of infection, 3% did not do that. ***Conclusions:*** Successful implementation and maintenance of screening and chemoprophylaxis protocol has been achieved and proved effective. The high compliance of the protocol may explain the absence of confirmed cases of early onset neonatal sepsis in the last three years in JDM. We believe that primary health care should also have a proactive role in order to improve screening adherence. It is crucial to assure timely administration when prophylaxis is indicated, using penicillin instead of ampicilin whenever possible. Also, alert pregnant women of their carrier state and the importance of going to the hospital on onset of labour. In order to accomplish universal implementation of this protocol it must be easy to apply and cost-effective.

Key-words: Early-onset, GBS, infection, protocol, screening.

P30 - Fungal infection in neonates - cases in a maternity hospital.

Paula Marques Neto[1]; Cristina Resende[1]; Sandra Mesquita[1]; Lia Gata[1]; Paulo Fonseca[1]; Carlos Lemos[1].
1-Maternidade Bissaya Barreto – CHC. Coimbra, Portugal.

Introduction: Invasive fungal infections cause high morbidity and mortality in Neonatal Intensive Care Units (NICU). Prematurity, low birth weight, fungal colonization or previous bacterial sepsis and invasive procedures are associated with an increased risk of candidemia. ***Objectives:*** To evaluate the incidence, risk factors and effective therapeutic approach in cases of fungal infection in neonates. Population and methods: A retrospective descriptive study of clinical cases of newborns admitted to the NICU of Bissaya Barreto Maternity Hospital with fungal infection from January 1998 to December 2008. Epidemiological parameters, risk factors and therapeutic effectiveness were assessed. ***Results:*** Twelve cases of fungal infections were identified in newborns, which represents an incidence rate of 0,34/1000 births. There were no sex differences. The median gestational age was 25 weeks (24-34 W) and the median birth weight was 722,5 grams (440-2850g). The infection was late in 11 cases, the average age of diagnosis was 17 days (1-37). Sepsis occurred in 10

cases (83%), there was one case of urinary tract infection and one pneumonia. The primary isolated agent was Candida parapsilosis (58%) followed by Candida albicans (33%). At the time of diagnosis the majority (75%) of infants had central catheters, 92% had required mechanical ventilation, all required total parenteral nutrition and 92% had previous antibiotic treatment. Prior to fungal infection 33% of cases had bacterial sepsis and 25% abdominal surgery. Fluconazole therapy was performed in all cases, only one situation required a second treatment with amphotericin B due to the absence of clinical improvement. There were 5 deaths (42%). ***Conclusions:*** The incidence of neonatal fungal infection is inversely proportional to gestational age and birth weight. The main risk factors were previous infection requiring antibiotics, the presence of central venous catheters and the use of parenteral nutrition. In our series there was no resistance to fluconazole.

Key-words: Candida, fungal sepsis, neonates.

P31 - Early neonatal sepsis with pathogen isolation.

Cláudia de Almeida Fernandes[1]; Carla David[2]; Eduardo Fernandes[2]; Filomena Pinto[2]; Manuela Santos[2]; Teresa Tomé[3].
1-Centro Hospitalar de Setúbal EPE; 2-Maternidade Dr. Alfredo da Costa; 3-Directora do Serviço de Pediatria Maternidade Dr. Alfredo da Costa. Portugal.

Background and Aims: The early neonatal sepsis is a major cause of morbidity and mortality among newborn infants The aim of this study was to determine the incidence, type of pathogens and sensitivity to antibiotics chosen empirically in infants with early onset sepsis pathogen isolated in blood cultures. ***Methods:*** We retrospectively studied maternal and neonatal files of term and preterm infants born over a period of 18 months, from January 2008 to June 2009, and exhibiting early- onset neonatal sepsis with positive blood culture. ***Results:*** The incidence rate of early neonatal sepsis with positive blood culture was 0.31% - twenty-eight newborns. Full-term and male infants were the most affected newborns. Predominant pathogens were group B streptococcus (n = 8), (5 of which resistant to gentamicin) and Staphylococcus epidermidis (n = 8) (all resistant to ampicillin and cephalosporins, 5 resistant to gentamicin). Three infants had gram negative neonatal sepsis (*one K. pneumoniae*, one *P. aeruginosa*, one *E. coli*). It was noteworthy that in 16 of the 28 cases there was resistance to ampicillin, and in 12 resistances to gentamicin. There were two deaths due to sepsis. In one of the cases the infection was attributed *to E. coli* bacteria and the other to *Pseudomonas aeruginosa*. ***Conclusions:*** The incidence rate of early neonatal sepsis with positive blood culture did not differ from that found in the literature. The Group B Streptococcus is still a quite important agent of early-onset neonatal sepsis in spite of the implemented prophylaxis policy for pregnant women. *S. epidermidis* is also an important agent of early-onset sepsis, consistent with the data in literature. The high incidence of resistance to antibiotics given empirically implies a need for more studies to provide interpretation and validation of antibiotic choices.

Key-words: Bacteremia, early-onset, neonatal, sepsis, treatment.

P32 - Newborn (NB) infection in a neonatal intensive care unit (NICU).

Maria João Magalhães[1]; Sandra Costa[1]; Carla Sá[1]; Albina Silva[1]; Matos Marques[1]; Eduarda Abreu[1]; Bernardete Fernandes[1]; Almerinda Pereira[1].
1-Braga's Hospital. Braga, Portugal.

Introduction: The NB admitted to NICU has an increased risk of infection that is related to their underlying debilitation, bacterial flora in the NICU environment and frequent exposure to invasive procedures. ***Objective:*** To characterize the infection in NB admitted to Braga's Hospital NICU. ***Methods:*** A cross-sectional study of all NB admitted to the NICU from 01/01/2008 to 31/12/2008. Statistical analysis was performed by using SPSS 17.0 and Chi-Square and Kruskal-Wallis tests, according to its applicability. ***Results:*** 151 NB were admitted: 45% (68/151) were preterm NB, 13.2% (20/151) had very low birth weight (VLBW), 23.2%(35/151) required invasive ventilation (IV) and 8.6%(13/151) had central vascular catheter (CVC). 43% (65/151) had an infection, totaling 69 episodes of infection, 20.3% (14/69) of them in VLBW NB. The origin of the infection was maternal in 79.7% (55/69) of the episodes, nosocomial in 7.2% (5/69), in the community in 11.6%(8/69) and in another hospital in 1.4%(1/69). Relatively to the infection type, there were 46.4% (32/69) sepsis, 36.2%(25/69) pneumonia, 2.9% (2/69) sepsis with pneumonia, 2.9%(2/69) sepsis with meningitis, 2.9%(2/69) necrotizing enterocolitis and 8.7%(6/69) acute bronchiolitis. The microorganism was identified in 18.8% (13/69) episodes of infection: Respiratory Syncytial Virus(6), *Staphylococcus haemolyticus*(2), *E.coli*(1), *Listeria monocytogenes*(1), *Streptococcus group B*(1), *Staphylococcus epidermis*(1) and other coagulase negative(1). Mortality was 0%. In this sample, there was no statistically significant association between sex, prematurity, VLBW and presence of CVC with the occurrence of infection ($p>0.05$). There seems to be an association between VLBW and reinfection ($p<0.05$). There was also a statistically significant association between IV and the occurrence of infection ($p<0.05$). ***Conclusion:*** Contrarily to literature, there's no association between prematurity, VLBW and presence of CVC with infection, which may be related to the small sample size. There seems to be a statistically significant association between VLBW/reinfection and IV/occurrence of infection, as described in the literature.

Key-words: Infection, neonatal intensive care unit, newborn.

P33 - Neonatal Screening for Congenital Hypothyroidism in Portuguese Level III NICUs.

Amélia Moreira[1]; Manuel Oliveira[1]; Laura Vilarinho[2]; Rui Osório[2]; Maria José Costeira[1].
1-Centro Hospitalar do Alto Ave - Guimarães; 2-Instituto de Genética Jacinto Magalhães. Porto, Portugal.

Background and Aims: The most common cause of neonatal thyroid disorder is congenital hypothyroidism (CH) with an incidence of 1/3097 live newborns. If not immediately corrected CH causes mental retardation. Most of the developed countries already have CH-screening programs (either by TSH or TT4 measurement in Guthrie card) for early identification and treatment of this condition. Many situations in the neonatal period may interfere with the diagnosis of CH as prematurity, low birth weight and drugs. Revised Portuguese neonatal screening guidelines advise a second blood collection in preterms of less than 31 weeks of gestation or very-low-birth-weight (VLBW) babies. Using this procedure, last year 3 preterm babies were diagnosed with CH. We intend to know the national practice on this issue, in level III neonatology services, and reinforce recommendations. ***Methods:*** A inquiry sent by e-mail to national level III Neonatal Intensive Care Units (NICUs), assessing neonatal screening practices. ***Results:*** A total of 12 NICUs (63%) were enrolled in this study. Ten NICUs have guidelines for the screening of CH. Blood collection is performed between days 3-6 in 92%, although practices are controversial when the baby is not being fed. Preterms are screened twice in 10 units and VLBW babies in 9; iodina-

ted disinfectants are still used in 6. ***Conclusions:*** Most national level III NICUs are following official recommendations of the Neonatal Screening Committee and show concern about thyroid dysfunction. It seems wise to establish well monitored protocols to repeat the screening in high-risk patients and to exclude iodinated disinfectants from Obstetric and Neonatal departments. Improvement in screening and therapy will improve developmental outcomes of these children.

Key-words: Congenital hypothyroidism- neonatal thyroid dysfunction- Guthrie card.

P34 - Retinopathy of prematurity: 3 years experience.

Luísa Neiva Araújo[1]; Alexandra Almeida[1]; Eunice Moreira[1]; Jorge Breda[2]; Carmen Carvalho[1].
1-NICU Júlio Dinis Maternity - Oporto Hospital Center, Oporto, Portugal; 2-Ophthalmology Department, S. João Hospital. Oporto, Portugal.

Introduction: As smaller and younger babies are surviving, the incidence of Retinopathy of Prematurity (ROP) is increasing. Low birth weight, low gestational age (GA) and supplemental oxygen therapy are risk factors usually associated with ROP, but new evidence suggests the possible role of other variables. ***Objective:*** The aim of our study was to evaluate the incidence of ROP and associated risk factors in infants born younger than 32 weeks of gestation, admitted in our neonatal intensive care unit from June 1, 2006 through May 31, 2009. ***Material and Methods:*** Medical records were analyzed from our neonatal database. ROP diagnosis was categorized according to the International Classification for ROP. Patients were divided in two groups: normal examination versus any grade of ROP. Risk factors for ROP were analyzed using the x2 test and the Fisher's exact test, as appropriate. ROP magnitude was divided in mild (grade 1-2) and severe (grade ≥3 or any grade with plus disease). ***Results:*** From the 242 infants admitted, ophthalmologic examination was possible in 192 (79%). Median GA was 29 weeks (min=24w; max=31w) and median birth weight, 1202,5 g (min=410g; max=2580g). 62% of the screened newborns had mild ROP and 3% had severe disease. 2 cases had plus disease and 4 cases were submitted to retinal ablative surgery. ROP was associated with very low birth weight ($p<0.001$), GA <28 weeks ($p<0.001$), small for GA ($p<0.01$), red blood cell transfusion ($p<0.01$), mechanical ventilation ($p<0.01$), bronchopulmonary dysplasia ($p<0.001$) and sepsis ($p<0.01$). ***Conclusions:*** As expected, ROP remains a common clinical problem among infants younger than 32 weeks, but the incidence of severe disease was low, probably due to improved supportive care of premature infants. Timely and effective screening, taking into account old and new risk factors, can improve prognosis.

Key-words: Premature, retinopathy of prematurity (ROP), risk factors.

P35 - Atypical presentation of early onset streptococcal disease: Clinical case.

Ana Castro[1]; Margarida Pontes[2]; Elisabete Coelho[2].
1- Interna de Pediatria, Hospital Pedro Hispano – ULS Matosinhos; 2-Assistente Hospitalar Graduada de Pediatria, Centro Hospitalar Póvoa de Varzim/Vila do Conde. Portugal.

Abstract: Group B Streptococcus (GBS) is the most frequent agent of perinatal bacterial infection in developed countries. Maternal intrapartum GBS colonization is a major risk factor for early-onset disease. Vaginal colonization may be transient, chronic, or intermittent. Severity of early-onset infection goes from asymptomatic bacteremia to septic shock. Localized cutaneous infection is more frequent in late disease. We report a clinical case of a seven days old female newborn, who was admitted at the emergency room with fever, irritability, hypotonia and poor peripheral perfusion. Pregnancy surveillance was suitable and Streptococcus prenatal screening was negative. Laboratorial investigation showed normal leukocyte count and increased acute phase reagents (C - reactive protein, procalcitonin). On the next day, under ampicillin and gentamicin treatment, a right leg cellulitis was evident. The blood culture was positive for GBS. Vaginal mother's swab was then positive for this bacterial agent. The authors aim to draw attention to the possibility of failure of the preventive measures for GBS vertical transmission, due to intermittent maternal vaginal colonization and to report a rare form of early-onset streptococcal disease.

Key-words: Cutaneous manifestations, GBS, neonatal early-onset infection, pregnancy intermittent colonization.

P36 - Autosomal dominant transmission of congenital hypothyroidism: identification of a new PAX8 mutation.

Ana Raquel Neves Ramalho[1]; Rita Cabral[1]; Isabel Sousa[1]; Isabel Monteiro[1]; Cavaco Rodrigues[1]; Luísa Mota-Vieira[1]; Carlos Pereira Duarte[1].
1-Hospital do Divino Espírito Santo. Ponta Delgada, Azores, Portugal.

Abstract: Congenital hypothyroidism is the most common cause of neurodevelopmental failure. In non-endemic areas the incidence is approximately 1:3,000 - 4,000 newborns. Permanent congenital hypothyroidism is most frequently caused by thyroid gland dysgenesis. Although most cases are sporadic, there are some families in which congenital hypothyroidism are transmitted as monogenic Mendelian disease. Several genes have been reported, between them the PAX8. This gene codes for a transcriptional factor involved in thyroid development and production from thyroperoxidase and thyroglobulin. At least seven mutations in the PAX8 are associated with thyroid dysgenesis, and one mutation was identified in a single congenital hypothyroidism family with normal size and location of the thyroid gland. In the present report, we describe an Azorean family from São Miguel Island with congenital hypothyroidism (without evidence of other systems involvement) segregated in three consecutive generations, i.e., autosomal dominant pattern of inheritance. Although diminished size in the three brothers, in relation with hormonal substitution therapy, the thyroid gland had normal size in the index member. The PAX8 mutation analysis in this case reveals the substitution of Proline for Arginine in the position 25 (p.Pro25Arg; c.74C>G), being all the affected members heterozygous for this new mutation. This fact explains the pathogenicity of the mutation in this family. As previously described for other PAX8 mutations, probably the loss of function of p.Pro25Arg did not disrupt the thyroid development but affect her function.

Key-words: Congenital Hypothiroidism, dysgenesis, PAX8.

P37 - Group B Streptococcus (GBS) sepsis of late onset: the pathogenesis.

Ana Cristina Aveiro[1]; Ana Cristina Pacheco Aveiro[1]; Filomena Teixeira[1]; Carlos Magno[1]; Edite Costa[1]; José Luís Nunes[1].
1-Hospital Central do Funchal. Funchal, Portugal.

Abstract: The colonization of the gastrointestinal and genital tracts of pregnant women by GBS is the major risk factor for early-onset GBS infection (before the 7th day of life) in

neonates and the vertical transmission occurs after rupture of the fetal membranes. By contrast, in late-onset infection (from 7 to 89 days), the vertical transmission assumes a less important role and the dominant mode of GBS transmission is not so well understood. Infant male, Caucasian, born at 33 weeks of gestation by emergency caesarean section for intestinal obstruction with foul ascitic fluid. He was medicated with intravenous ampicillin and gentamicin during 10 days and was discharged at 18th day of life. Blood cultures were negative as well as the antigen detection of GBS in blood and urine. The microbiological study of the mother's ascitic fluid was also negative. He appealed to the emergency service on the 50th day of life by fever (38.3º C) with 6 hours of onset, crying, grunting and poor feeding. At physical examination it was noted irritability, pallor and tachypnea. The diagnostic tests performed (including lumbar puncture) were consistent with bacterial infection without the focus so that broad-spectrum antibiotics were initiated. In blood culture was isolated a GBS and therapy was changed according to the sensitivity of in vitro tests to antibiotics. He completed 14 days of therapy with good clinical outcome. In our case, the mother's state of colonization was unknown but in the absence of passage through the birth canal or rupture of the fetal membranes we conclude that the vertical transmission is excluded. Therefore arises here the hypothesis that the infection was acquired in the community.

Key-words: Group B Streptococcus; late-onset sepsis.

P38 - Neonatal Herpes meningoencephalitis - report of a clinical case.

Sónia Regina Silva[1]; Clara Diogo[1]; Sofia Figueiredo[1]; Luís Damas[1]; Adelaide Bicho[1]; Paula Rocha[1].
1-Hospital Infante D. Pedro. Portugal.

Introduction: Herpetic meningoencephalitis (MEH) is a fearsome infection of central nervous system caused by Herpes Simplex Virus (HSV). The diagnosis is made by identification of HSV in the CSF (by PCR-polymerase chain reaction) or in brain tissue (biopsy). ***Case Report:*** Male newborn, first child, watched pregnancy, urinary tract infection in the 3rd trimester. Unchanged prenatal ultrasound and negative serology. Delivery by instrumented (forceps and suction) labour at 41 weeks. Normal amniotic fluid. Apgar 8/9/9. Released at D2 of life, with serosanguineous bossa and scalp excoriation. Observed in the ER at D5 of life for inflammatory signs of the excoriation, with no other complaints. On exam, scalp wound with oozing pus and a white board of the tongue. Analytically: 9.40x109 / L leukocytes (3.38x109 / L neutrophils), platelets 234,000, RCP - 1.66 mg / dL. He was admitted for treatment with IV flucloxacillin, and topic fusidic acid and miconazole. At admission day 1 initiated fever, feeding refusal, prostration and occasional groaning, associated with the appearance of vesicular skin lesions in the chin. A new analytical study revealing elevated transaminases and CRP - 1.35 mg / dl and maintenance of prostration markedly raised the possibility of herpes infection associated with staphylococcal superinfection. Started acyclovir (IV), and the antibiotic changed to vancomycin and cefotaxime (iIV). The diagnosis of MEH was confirmed by detection of HSV1 DNA by PCR in the CSF. The clinical outcome was favorable and received 21 days of acyclovir. ***Comments:*** With this case report the authors intend to focus attention on this serious illness that can benefit from early diagnosis and treatment. Emphasize the fact that it is a MHE HSV 1. This virus is classically related to oral herpes, and is the least frequent etiologic agent in neonatal presentation.

Key-words: Herpes meningoencephalitis, neonatal, primary infection.

P39 - Floppy neonate: a case report.

Amélia Moreira[1]; Cristiana Couto[1]; Clara Paz Dias[1]; Silvana Ray[1].
1-Centro Hospitalar do Alto Ave – Guimarães. Portugal.

Abstract: Hypotonia is a common, nonspecific, clinical sign present at birth or at the first few days of life. It should always alert neonatologists for a potentially serious underlying condition like a neuromuscular disorder (responsible for a third of the cases). A 24-year-old mother, medicated hypothyroidism, G3/P1 (2 spontaneous abortions), with a pregnancy complicated by slightly reduced fetal movements and polyhydramnios, had a spontaneous preterm labor at 30 4/7 weeks. The female newborn (weight 1360 g - P25-50, head circumference 30.2 cm - P75, Apgar score of 4/6/7) needed endotracheal intubation. Nonconsanguineous parents, unremarkable family history. Clinical examination revealed generalized hypotonia, decreased spontaneous movements, tenting of the upper lip, high-arched palate, bilateral clubfoot, areflexia, and sporadic eye opening. DHL of 1139 IU/L, AST 107 UI/L, CK 133 UI/L: all normal in few days. Admission chest x-ray had moderate hyaline membranes disease; subsequent x-rays showed right diaphragmatic leave elevation; fluoroscopy confirmed paralysis. She needed invasive mechanical ventilation from birth to 36th day; nCPAP until 54th day of life; under parenteral nutrition for 3 weeks, with reasonable suction and swallowing reflexes at 3 months post-natal age. At 4 months old (corrected age), she breathes spontaneously at ambient air and feeds well; maintains muscular weakness, particularly in lower extremities. Molecular analysis of DMPK (dystrophia myotonica-protein kinase) gene showed abnormal expansion of trinucleotide repeats. Follow-up in multidiscipline Neuromuscular consult, and also Neonatology and Physical Rehabilitation consults. Mother was diagnosed after her newborn girl. In congenital Steinert´s disease, when the child survives neonatal period, there is a trend toward gradual improvement of both respiratory and feeding difficulties. This case underscores the importance of the diagnosis for genetic counseling and emphasizes this condition (although rare) as a possible cause of floppy neonate, not forgetting also its inclusion in the differential of perinatal asphyxia.

Key-words: Hypotonia, neuromuscular disorder.

P40 - Hemofilia A in the neonate – Importance of familial history.

Sónia Marques[1]; Mafalda Gonçalves[1].
1-Hospital Cuf Descobertas. Lisbon, Portugal.

Introduction: Haemophilia is an inherited deficit of a coagulation factor. The more common is the lack of Factor VIII (A haemophilia) followed by lack of Factor IX (B haemophilia). Incidence 1/10000 newborns. ***Methods:*** Retrospective study of two cases of haemophilia, the first one with a prenatal diagnosis of haemophilia and the other with no diagnosis at birth. ***Results:*** 1st case: mother with haemophilia, one brother died after trauma and other with disease. Programmed for cesarean delivery at 38 weeks. Newborn male clinically well. Cerebral ultrasound (1 and 3 days old) normal. Discharge at 72h of life referred to hematology. 2nd Case: gestation 38 weeks, no family history of disease. Normal vaginal delivery. Newborn clinically well. Transferred to the neonatal unit with 5 hours of life for pallor and hypotonia. 10 hours of life tonic-clonic seizures in the left limbs evolving into "status epilepticus". Medicated with phenorbabital, phenytoin and midazolam, requiring ventilatory support. CT scan showed "Cerebrospinal occipital haematoma and subdural haematoma over the tentorium, without mass effect.". ***Coagulation study:*** aPTT prolongation and factor VIII deficien-

cy. Discharge at 16th day of life with the diagnosis of A hemophilia complicated with subdural haematoma. ***Discussion:*** Of the infants with haemophilia 30% have no family history so you cannot schedule the delivery and this may constrain unfavorable, as in Case 2. Most intracranial haemorrhages due to traumatic delivery manifests itself in the first days of life similar to our case. It is estimated an incidence of 3.5-4%. ***Conclusion:*** A family history of haemophilia requires interdisciplinary cooperation between haematologists, obstetricians and neonatologists in order to program monitoring and treatment of this pathology. The prenatal diagnosis may help to reassure the mother and the programming of delivery with a view to a more favorable prognosis when the fetus is ill.

Key-words: Haemophilia, newborn.

P41 - Congenital Cystic Adenomatoid Malformation Type 3: case report.

Marcos António da Silva Cristovam[1]; Nelson Ossamu Osaku[2]; Gleice Fernanda Costa Pinto Gabriel[2]; Joice Ribas[2]; Marcos M. Campos[2]; Alexandre Bueno[2].
1-Hospital Universitário do Oeste do Paraná-Cascavel-BRASIL; 2-Hospital Universitário do Oeste do Paraná.

Background: newborn with congenital Cystic Adenomatoid Malformation (CAM), which are unilateral hamartomatous lesions, generally present with marked respiratory distress within the first days of life. This disorder accounts for 95% of cases of congenital cystic lung disease. There are three types of such malformations. The type 3 lesions consist of small cysts (<0.5 cm), which appear as a bulky, firm mass. Right and left lungs are involved with equal frequency. Clinically, respiratory distress is noted soon after birth. Chest radiograph shows an intrapulmonary mass of soft tissue density with scattered radiolucent areas of varying sizes and shapes, usually with a mediastinal shift and pulmonary herniation. Treatment involves surgical removal of the affected lobe. The authors present a case of congenital CAM type 3 was treated in University Hospital. ***Case report:*** a male newborn was born by a cesarean section in of an uncomplicated pregnancy without significant medical history in the family. Polyhydramnios was present. His Apgar score: 09/10, Gestational age: 37 weeks and birth weight: 3265g. Respiratory distress was present soon after birth and during physical examination the breath sounds were decreased about right hemithorax. Chest radiograph and computed tomography studies showed lesion solid homogeneous mass filling region of upper and medium lobe of right lung. Decompression of the gastrointestinal tract with a nasogastric tube, fluid and electrolyte and oxygen supplementary were placed. Surgical removal was performed and patient was discharged on day 14 post delivery. ***Conclusions:*** congenital CAM has been reported to have malignant potential; therefore, expectant management with observation alone should proceed with caution. Differentiation from sequestration is not difficult because congenital CAM have no systemic blood supply. The reported survival rate is 50%. Recent development of intrauterine surgery for congenital malformations has led to promising results.

Key-words: Congenital adenomatoid cystic, lung, neonate.

P42 - Pulmonary hypoplasia. What can be the cause?

Nicole Silva[1]; Albina Silva[1]; Eduarda Abreu[1]; Matos Marques[1]; Carla Sá[1]; Bernardete Fernandes[1]; Inês Azevedo[2]; J. Correia Pinto[2]; Almerinda Pereira[1].
1-Hospital de Braga; 2-Hospital de S. João. Porto, Portugal.

Introduction: Pulmonary Hypoplasia (PH), a rare congenital malformation of the lower respiratory tract, is defined as an incomplete development of the lung tissue. In more than 50% of the cases, associated anomalies are present. Decreased pulmonary vascular perfusion caused by hypoplasia of the pulmonary artery is an infrequent cause of PH. The long term prognosis is directly related to the degree of the PH and presence of associated anomalies and/or co-morbidities. ***Case report:*** A 37-week, appropriate-for-gestational age infant male was born by vaginal delivery, with meconial fluid being reported. Shortly after birth, continuous positive pressure airways was started because of a progressive worsening respiratory distress. A sepsis evaluation was done and intravenous antibiotics started. Initial chest radiograph revealed total opacity of the left hemithorax with ipsilateral displacement of the mediastinum. Serial radiographs failed to show improvement, however the patient's respiratory status normalized. Computed tomography of the chest revealed a reduction in the volume of the left hemithorax with shifting of the mediastinum to the left, associated with a compensatory expansion of the right lung. The echocardiogram and bronchoscopy preformed were normal. Initial angiographic-TC was inconclusive. The infant remained asymptomatic and was discharged and oriented to a Neonatology and Pediatric Surgery consultation. At three months of age, he repeated the Angiographic-TC that showed a hipoplastic left pulmonary artery (only seen in its initial 5mm with distal occlusion). Actually, at 27 months of age he remains asymptomatic and has a normal growth and development. On physical examination an asymmetrical thorax is noted with decreased breath sounds on the left. ***Conclusion:*** PH should be considered in the differential diagnosis of infants with respiratory distress associated with marked opacification of one hemithorax. Despite the severity of the PH the good prognosis in this case, is related to absence of associated anomalies and co-morbidities.

Key-words: Hypoplasia pulmonary artery, pulmonary Hypoplasia.

P43 - Respiratory distress in the newborn: Diagnostic challenge.

Clara Machado[1]; Albina Silva[1]; Carla Sá[1]; Eduarda Abreu[1]; António Marques[1]; Bernardete Fernandes[1]; Almerinda Pereira[1].
1-Neonatal Intensive Care Unit, Paediatrics Department, Braga Hospital. Braga, Portugal.

Introduction: Respiratory distress is one of the most common problems of newborns. Signs and symptoms can result of pulmonary, cardiac, metabolic, infectious, gastroenterological and neurologic pathologic processes. Transient tachypnea of the newborn (TTN) is the most common diagnosis. Based on progression and severity of symptoms other causes of respiratory distress are considered. ***Clinical Case:*** Newborn, 3rdchild of healthy parents, good prenatal care, polyhydramnios, delivery at 38 weeks by caesarean section. Apgar score 6/6/9. Resuscitation with endotracheal intubation needed. Admitted hemodynamically stable with moderate respiratory distress and bilateral crackles. Mechanical ventilation for 1 hour and NCPAP until 8thday (maximum oxygen needed: 50%). Mild to moderate respiratory distress maintained during 2ndweek starting chest physiotherapy. Discharged on 17th day with TTN diagnosis. Follow-up as outpatient. Clinically revaluated on 28th day presenting with inspiratory stridor more intense during crying and feeding, for the last 8 days. Hospital admission on 2nd month with respiratory distress, apnea and hypoxia. Chest X-Ray: atelectasis of right middle lobe. Markers of infection, viral testing and search

for Bordetella pertussis and parapertussis negative. Immunoreactive trypsin negative. Bronchoscopy: severe anterior and posterior laryngomalacia; congenital right middle bronchial stenosis. Oxygen, bronchodilator and corticosteroid therapy with clinical improvement. Follow-up on Neonatology, Paediatric Pneumology and Physical Medicine consultation as outpatient. Actually, 6 months old, with good growth and development, maintains inspiratory stridor and respiratory distress episodes needing oxygen therapy. Being treated with chest physiotherapy and respiratory syncytial virus prophylaxis. ***Discussion:*** Congenital anomalies of the airways are a serious cause of respiratory distress within the first minutes of life. Laryngomalacia is the most common cause of congenital stridor and congenital lesion of the larynx (60%) and is related with other congenital anomalies as bronchial stenosis in 20% of cases. Good prognosis. Symptoms usually resolve as the airways grow. Surgical intervention is rarely needed.

Key-words: Laryngomalacia, newborn, respiratory distress, stenosis, stridor.

P44 - Sildenafil for persistent pulmonary hypertension of the newborn: a case report.

Luísa Neiva Araújo[1]; Carmen Carvalho[1]; Elisa Proença[1]; Artur Alegria[1].
1-NICU Júlio Dinis Maternity - Oporto Medical Center. Porto, Portugal.

Introduction: Persistent pulmonary hypertension of the newborn (PPHN) is associated with significant perinatal morbidity and mortality. It occurs when pulmonary vascular resistance (PVR) remains elevated after birth, resulting in right-to-left shunting of blood through fetal circulatory pathways. Current standard therapy consists of assisted ventilation, hemodynamic support and inhaled nitric oxide (iNO). Uncontrolled studies of the use of Sildenafil in neonates, a potent pulmonary vasodilator, have reported improved PVR and survival. ***Case report:*** Female infant, born at term, via elective C-section. Maternal history was irrelevant, with negative serologies and normal antenatal routine sonographs. Birth weight was appropriate for gestational age. Apgar score: 9/10. In the first 12 to 24 hours after delivery, the infant developed cyanosis, tachypnea and progressive hypoxemia associated later with a preductal to postductal transcutaneous oxygen gradient greater than 20% and mean oxygenation index (OI) greater than 40, unresponsive to oxygen therapy or lung recruitment strategies. Infectious work up was negative. Chest radiography showed bilateral opacities. Echocardiogram excluded structural cardiopathy. Continuous sedation, inotropic support, alcalinization, antibiotics and surfactant were additional treatment measures. Persistent pulmonary hypertension has been established and oral Sildenafil was prescribed. A substantial reduction of the OI was associated to clinical improvement and extubation was possible six days later. The patient was discharged at 15 days of life without any complications. No clinically important side effects were reported. ***Discussion:*** Currently, the therapeutic mainstay for PPHN consists of optimal lung inflation with assisted ventilation, hemodynamic support and selective vasodilation with administration of iNO. However iNO is costly, unsuccessful in 30% of the cases, and is not easily available. In the present case Sildenafil was an effective and lifesaving treatment chosen as a last resort in a critically ill patient who did not respond to conventional therapy. So, sildenafil may be an efficient optional treatment in PPHN.

Key-words: Newborn, persistent pulmonary hypertension, sildenafil.

P45 - Spontaneous resolution of pulmonary interstitial emphysema - case report.

Raquel Soares[1]; Patrícia Silva[2]; Margarida Martins[1]; Maria José Noruegas[1]; Carlos Lemos[2]; Alexandra Dinis[1]; Carla Pinto[1].
1-Hospital Pediátrico de Coimbra; 2-Maternidade Bissaya Barreto. Coimbra, Portugal.

Background: Pulmonary interstitial emphysema (PIE), air trapped in the perivascular tissues of the lung, is a rare condition that occurs most often in ventilated preterm infants. Severe cases sometimes need surgical intervention. We report a case of PIE in a non ventilated preterm newborn, with spontaneous resolution. ***Case report:*** Male infant born at 30 weeks gestation (unremarkable pregnancy) with a birth weight of 1760g, Apgar score 5-8-10. Bag-and-mask resuscitation was carried out with success. He was admitted to the neonatal intensive care unit (NICU) with respiratory distress (RDS), which improved by day 6. On day 11th his condition deteriorated and his RDS worsened. A chest X-ray was performed, which showed hyperinflated left lung. After 4 days of treatment with oxygen, chest physiotherapy and antibiotics, a new chest X-ray revealed worsening of the left lung inflation with a right mediastinal shift. Chest CT disclosed an increased left lung volume and air-filled cystic images, and the diagnosis of PIE was assumed. After multidisciplinary discussion, management with conservative measures was decided (lateral decubitus positioning with the most significantly affected side down, and supplemental oxygen). Clinical and radiological improvement was achieved and he was discharged home at day 37, fully recovered. ***Comments:*** The characteristic CT scan appearance of PIE is very useful to differentiate PIE from other congenital lung lesions/malformations. Conservative management in this case was the best option.

Key-words: Pulmonary interstitial emphysema, spontaneous resolution.

P46 - Bronchopulmonary dysplasia in very low birth weight infants - A 3-year analysis.

Sílvia Bacalhau[1]; Vera Viegas[2]; Ana Bettencourt[3]; João Castela[3].
1-Pediatrics Department, Hospital Santo André, Leiria; 2-Pediatrics Department, Hospital de São Bernardo, Setúbal; 3-Pediatrics Department, Maternidade Dr. Alfredo da Costa, Lisboa. Portugal.

Background: The widespread use of antenatal corticosteroids, surfactant and new ventilation strategies have contributed to improvements of survival rates for preterm infants and also to changes in the clinical presentation of Bronchopulmonary Dysplasia (BPD). ***Aims:*** Characterize the population of Very Low Birth Weight (VLBW) Infants admitted to the Neonatal Intensive Care Unit (NICU) with the diagnosis of BPD. Identify risk factors for moderate/severe BPD. ***Methods:*** Analytic retrospective study between January 2006 and December 2008, by consulting clinical processes and national registration data base of VLBW Infants. We perform a comparison between 2 groups: mild BPD vs moderate/severe BPD. The National Institute of Child Health definition of BPD was used: Mild BPD: O2 for > 28 days + Room air at 36 weeks of Postmentrual Age (PMA); Moderate BPD: O2 for > 28 days + Treatment with O2 < 30% at 36 weeks of PMA; Severe BPD: O2 for > 28 days + Treatment with O2 > 30% and/or positive pressure at 36 weeks of PMA. ***Results:*** A total of 111 infants were included, corresponding to 30% of VLBW Infants admitted to the NICU. 71 Infants (64%) belonged to mild BPD group and 40 (36%) to moderate/severe BPD group. We found a proportional relation between birth weight (p=0,002), Score for Neonatal Acute Physiology-Perinatal Extension-II (SNAPPE-II)

(p=0,001), invasive ventilation length (p=0,001) and BPD severity. We detect a significant statistical relation between sepsis and moderate/severe BPD. In the moderate/severe BPD group, there was more Pneumonia, Pneumothorax, Pulmonary Hypertension and Severe Retinopathy of Prematurity (p<0,05). 20% of Infants with moderate/severe BPD were discharged with oxygen. ***Conclusions:*** One third of sample belongs to moderate/severe BPD group. We identify some risk factors for moderate/severe BPD: low birth weight, high SNAPPE-II, sepsis and prolonged invasive ventilation.

Key-words: Bronchopulmonary dysplasia, very low birth weight.

P47 - Bronchopulmonary dysplasia – 5 years retrospective analysis.

Sara Santos[1]; Marta Parada[1]; Lígia Basto[1]; Joaquim Tiago[1]; Raquel Henriques[1]; Rosa Ramalho[1].
1-Neonatal Intensive Care Unit (NICU) – Maternidade Doutor Daniel de Matos, Hospitais da Universidade de Coimbra, Coimbra, Portugal.

Background: Bronchopulmonary dysplasia (BPD) is an important morbidity associated with premature birth. ***Objective:*** To evaluate the severity of BPD in infants < 32 weeks ´gestational age admitted to a NICU and its relation with prevention strategies. ***Methods and materials:*** Review of medical records of infants born in a level III maternity hospital of Portugal, during a period of 5 years (January 2004 to December 2008). Severity-based, consensus definition of BPD of the National Institute of Child Health and Human Development/National Heart, Lung and Blood Institute (2000) was assumed and 32 cases were identified. ***Results:*** The incidence of BPD was 9%. Mild forms were prevalent (59%), followed by moderate (28%) and severe BPD (13%). All newborns were very low birth weight (median 832g) and 53% were boys. Antenatal corticosteroids were done in 84%. Treatment of early morbidities included surfactant therapy (66%), caffeine (97%), closure of patent ductus arteriosus (53%) and aggressive phototherapy (84%). Parenteral nutrition support was made in 94%. Diuretics were used in 69% and dexamethasone in 41%. Ventilatory strategies included permissive hypercapnea in infants with mechanical ventilation (87%) and use of nasal continuous positive airway pressure (94%). The mean time for oxygen therapy was 50 days. Severe cases of BPD (n=4) were associated with lower birth weight (median 690g), lack of antenatal corticosteroids and the need for longer courses of mechanical ventilation and oxygen support . Three infants needed oxygen therapy in the first year of life. Follow-up at 12 and 24 months corrected age showed growth under 5th percentile and lower scores in Griffiths Mental Developmental Scale when compared to infants with less severe disease. Overall mortality was 9%. ***Discussion:*** BDP represented a complication of concern in very premature infants. Prevention strategies were globally taken and probably contributed for the predominance of milder forms. New prevention strategies are in discussion.

Key-words: Bronchopulmonary dysplasia (BPD), outcome, prevention strategies, severity.

P48 - A difficult diagnosis…

Manuela Costa Alves[1]; Ana Brett[1]; Victor Melo[2]; Manuel Ramos[3]; Ochoa Castro[3]; Joana Mesquita[1]; Dolores Faria[1].
1-Neonatal Intensive Care Unit of Maternity Bissaya Barreto; 2-Obstetric Department of Maternity Bissaya Barreto; 3-Pediatric Surgery Department of Hospital Pediátrico de Coimbra, Portugal.

Introduction: Diaphragmatic congenital hernia (DH) occur in approximately 1/2000-5000 live births, and a bilateral hernia is a rare condition. In the absence of prenatal diagnosis, the classic presentation occurs within the first hours of life with signs of respiratory distress. We present this case for its rarity and presentation. ***Case report:*** Female infant, born at 36 weeks gestation, after an unremarkable pregnancy with normal prenatal ultrasound and serology, with a good adaptation to extra-uterine life and a birth weight of 2710g. After 15 minutes of life, she starts moaning and polypnea, and was admitted to the NICU for surveillance. In the early hours there was progressive worsening with clinical sepsis/shock, requiring mechanical ventilation. Blood culture was positive for *Streptococcus agalactiae*. The chest X-ray showed exuberant bilateral reticular infiltrate. She had severe pulmonary hypertension, with difficult ventilation. Chest TC at 16th day of life showed atelectasis and bronchiectasis. She was extubated at the 20th day of life, remaining on CPAP. On the 22th day of life the chest X-ray was compatible with right DH. Surgery was performed on the 23rd day of life, with correction of the right posterolateral diaphragmatic defect. From the 25th day of life onwards there was no need for supplemental oxygen, but she maintained polypnea and poor weight gain. By day 35th of life, she presented with obstructive jaundice. She underwent laparotomy and intraoperative cholangiography, which revealed a left Bochadeck hernia with sac and biliary lithiasis. Currently she is 12 months old, clinically well. ***Conclusion:*** There is an association between late right DH presentation and sepsis by *Streptococcus* group B. Persistent pulmonary hypertension in a newborn should always contemplate this disease in its differential diagnosis. The diagnosis of left posterolateral hernia with sac is rare and can only be done during infancy or occasionally in the context of other pathology.

Key-words: Diaphragmatic congenital hernia.

P49 - How to manage a newborn baby with meconium aspiration in the delivery room.

Carina Araújo[1]; Manuela Fróis[1]; Paula Bordalo[1]; Charles Fazenda[1].
1- Neonatal Intensive Care Unit and Obstetric Emergency Room of Maternidade Dr. Alfredo da Costa. Lisbon, Portugal.

The immediate action towards a newborn baby with meconium aspiration will positively interfere with the quality of life in the future of this baby. The right actions can avoid serious consequences in a short term but also in the long term. Usually the deliveries of preterm babies and term babies with any diagnosis that may anticipate any kind of complications during the childbirth occur in the presence of the neonatologist. But, a term baby with meconium aspiration is a serious situation that can happen in a sudden and unexpected way in the delivery room. These situations require a quick and skilled action and in the most of the times nurses are alone until the neonatal team arrives. This short presentation made by neonatal nurses and obstetric nurses has the purpose of establish and justify the procedures that need to be made in these cases to avoid more serious complications until the neonatal team arrives. Therefore we establish as main goal the description of procedures that need to be made by the obstetric nurse when a term baby with meconium aspiration is born. We also intent to explicit the theoretical basis that fundament those procedures; to specify the nursing care that need to be made and to emphasize the possible complications that may occur in the absence of a correct conduct in the delivery room.

Key-words: delivery room, meconium aspiration.

P50 - Infection control: A duty or an obligation?

Ana Rita Antunes[1]; Catarina Felgueiras[1]; Inês Silva[1].
1-Maternidade Alfredo da Costa. Lisbon, Portugal.

In nowadays, nosocomial Infection represents an important focus of attention on health institutions. In Neonatal field, this theme acquires an extreme importance, representing a bad prognosis for newborns that incorporating specific characteristics related with the immaturity of their systems. The strategies of infection control in these units, are vital to minimizing the transmission of potentially invasive microorganisms. In this context, hand washing represents the most accessible, less expensive, and the most efficient procedure on infection prevention. The adhesion of the health team to the infection control programs becomes an essential point. However, this daily practice is frequently related with complex situations, due to the close connection with the human behaviour, often influenced by factors inherent to it. Considering the importance of the described theme, there will be a brief free communication. Like objectives we include the definition of nosocomial Infection, describing his importance in a Neonatal Intensive Care Unit. We also enumerated the main Infection Control measures, giving particular emphasis to the practice of hand washing, and the factors that influencing it.

Key-words: Hand Washing, Infection control, neonatology.

P51 - The development of the newborn: Care for protection in Neonatal Intensive Care Unit.

Ana Barbosa[1]; Anabela Silva[2]; Carolina Cardoso[2]; Vanda Santos[2].
1-Serviço de Neonatologia do Hospital de S. João, E.P.E, Porto; 2-Unidade de Cuidados Intensivos Neonatais da Maternidade Dr. Alfredo da Costa. Lisbon, Portugal.

Nowadays is frequent to have neonatal intensive care units (NICU) full of preterm infants (PI), being registered that its survival rate has increased over the last three decades, mainly due to technological advances. However, despite the achievements in mortality rates, as registered nurses, we must center nursing care in enhancing the best possible outcome for these infants. At the time of birth, newborns can experience high levels of stress, especially PIs, due to their immaturity that, for itself, will determine NICU hospitalization. Thus, in the NICU, premature infants experience an environment that is quite different from the uterus environment, where they would have the ideal conditions for their development. Due to the sensitivity of sensory receptors of the PIs, the environment of the NICU, indispensable to their survival, will compromise the PI development process. In a high technology, bright and noisy environment, with excessive handling and invasive procedures, stress and pain are common feelings of the PIs. With this presentation we pretend to alert health care providers to the aggressions that PIs are daily subjected in the NICU, so that we can protect these small and immature infants in a more effective way, providing then the best possible conditions for their development. In the NICU, PIs require the intervention of multiple health care providers; however, the neonatal nurse is the responsible for managing the environment, clustering of care, providing a holist care. However, this doesn't seem to be enough. All health care providers must respect these principles, so that care can be centered in the PI development protection and promoting, at the same time, parental involvement.

Key-words: Development, excessive handling, NICU environment, preterm.

P52 - Nursing newborn to perform therapy nitric oxide.

Cátia Inês Severiano[1]; Catarina Branco[1]; Vanis Candeias[1].
1-Maternidade Dr. Alfredo da Costa. Lisbon, Portugal.

Despite advances in nursing care of the Newborn (NB) Neonatal Persistent Pulmonary Hypertension (PPHN), this is still a major cause of mortality and morbidity in the neonatal period. Neonatal Intensive Care Units (NICU's) try using new technologies and experience of professionals trained to treat PPHN. Early diagnosis through examination determines the specific type of PPHN, and can thus choose the most appropriate treatment. According KOPELMAN, and MIYOSHI GUINSBURG "The Neonatal Persistent Pulmonary Hypertension (PPHN) is a syndrome characterized by a high vascular resistance in postnatal maintained associated with a right-left shunt at foramen ovale or ductus arteriosus. The majority of infants with PPHN'S is treated with mechanical ventilation and vasodilator therapy. The most widely used pulmonary vasodilator is nitric oxide (NO). Inhaled NO causes vasodilation, increasing arterial oxygenation and decreasing the high vascular resistance. So teams need nursing theoretical and technical knowledge about the therapy with NO, as the preparation of material, installation and use of equipment, monitoring of the newborn, parental counseling and nursing team. The objectives of the implementation of this poster: Alert-health professionals to the importance of having theoretical and technical knowledge about the therapy with NO; Present the main nursing care of infants with PPHN and treatment with NO.

Key-words: Persistent pulmonary hypertension, nitric oxide, nursing.

P53 - Administration of surfactant: Nursing care associated.

Catarina Branco[1]; Catia Severiano[1]; Vanis Candeias[1].
1-Maternidade Dr. Alfredo da Costa. Lisbon, Portugal.

Since 1980 until now that the majority of the studies carried through about administration of surfactant in the newborns with syndrome of respiratory difficulty present common results: improvement in the gaseous exchanges, and the pulmonary mechanics and reduction of neonatal mortality. From years 90, some commercial chemical preparations had become available for use clinical having the administration of surfactante becomes one of the main interventions in the neonatal units. For the maximum effect of this technique, since the complications are several, this has to be carried through correctly and the nursing cares in the following hours have that to be rigorous. The nursing cares to have in the administration are: The surfactant must be previously warm, holding the bottle in the palm of the hand; The endotraqueal pipe is detached briefly from the fan or can also be managed through system where it does not have disconnection, having the instillation to be fast (less than 30 seconds), reconnecting again the newborn to the fan; The cardiac frequency and the transcutaneous saturation must be monitored during the procedure; The administration of the dose must itself be tried to after prevent the aspiration of the endotraqueal pipe in the 6 hours; The ventilator parameters and the amount of oxygen must be adjusted in accordance with the changes that occur in the minutes that follow the administration of the drug. The objectives of this poster are: Sensibly the professionals of health for the importance to possess knowledge concerning the technique of surfactant administration; Present the main cares of nursing to the newborn subject to surfactant administration.

Key-words: Surfactant administration, nursing cares.

P54 - Oxygen therapy in the neonatal period: What consequences?

Catarina Branco[1]; Catarina Branco[1]; Carina Araújo[1]; Filipa Soveral[1]; Jorge Gonçalves[1]; Manuela Fróis[1]; Sónia Alves[1]; Vânia Candeias[1].
1-Maternidade Dr. Alfredo da Costa. Lisbon, Portugal.

In the preterm newborn the treatment with inhale oxygen, constitutes one of the most used therapeutically measures during the internment in the Neonatal Intensive Care units. The oxygen is vital for the survival of the preterm newborn with diverse pathologies. However, there's a vast scientific evidence about the harmful of oxygen free radicals in many organs and tissues of the preterm newborn, which has greater vulnerability. Its use, even so necessary, can bring harmful effects in the long run, which depend on some factors. They can be verified essentially at pulmonary and retina level, conditioning the quality of life of the preterm newborn. The toxicity of oxygen was well registered by diverse studies, being currently consensual the necessity of a control and rigorous monitoring of the saturation and concentration of managed O2, looking for to get acceptable levels of PaO2, in accordance with the pathology of each preterm newborn. To early recognize signals and symptoms, of hypoxia and hyperoxia, it's essential in order to intervene precociously and minimize the decurrently complications. To prevent and protect the preterm newborn of possible consequences are words of order and a challenge to the professionals. The nursing equip, has an essential paper, be prepared to adequately intervene in all situations, in order to provide cares of quality to the preterm newborn. With this poster we have as objectives: Sensibly the professionals of health for the importance of the weighed use of the oxygen Therapy in the protection and related possible prevention of consequences, in form to promote nm adequate development of the preterm newborn; Enhance the paper of nursing equips in the monitoring and control of the administration of the oxygen, in order to satisfy the individual and specific necessities of each preterm newborn, in accordance with its clinical situation.

Key-words: Consequences, nursing care, oxygen, preterm newborn, toxicity.

P55 - Cerebral venous sinus thrombosis in neonates.

Bárbara Pereira[1]; Carla Sá[1]; Albina Silva[1]; Eduarda Abreu[1]; António Matos[1]; Bernardete Fernandes[1]; Henedina Antunes[1]; João Fernandes[2]; Jaime Rocha[2]; Almerinda Pereira[1].
1-Unidade de Neonatologia do Serviço de Pediatria do Hospital de Braga; 2-Serviço de Neurorradiologia do Hospital de Braga. Braga, Portugal.

Introduction: Neonatal cerebral venous sinus thrombosis (CVST) is a serious disease that has been considered a rare disorder with poor prognosis. It is now clear that CVST is more common than once believed because there is increasing awareness of clinical presentations and more sensitive diagnostic procedures. ***Patients presentation:*** Four CVST cases diagnosed at our Hospital from January 1st, 2008 to June 30th, 2009, in a total of 4520 newborn during this period. From four cases, one is female. One is a 35 weeks premature and three are term neonates (one with intrauterine growth restriction). On the 35 weeks newborn, the clinical presentation was apneas on the 4th day of life. One term newborn remained asymptomatic (imaging performed because of a large fontanelle and skull fracture suspicion) and the others presented tonic seizures on the 1st and 7th days, respectively. The cranial ultrasonography was normal in a newborn and on the others with suggestive changes. The diagnosis was confirmed by magnetic resonance imaging in all, and three had venous infarcts. The three symptomatic cases had normal electroencephalography and responded well to the anti-epileptic given (phenobarbital).The prothrombotic study carried out, in the neonatal period and at the six months of follow up, to the newborn and to their parents was normal. One has epilepsy and a global development delay. The others are without neurological deficits and with an appropriate psychomotor development, to date. ***Discussion:*** In our country the overall incidence of CVST is unknown. One needs to be aware of this possibility in neonates and look for it in any suspected neonate. Three of our cases presented as seizures, which corresponds to the most common way of presentation at this entity. According to literature, the prognosis can be very variable, although about ¾ have normal development.

Key-words: Cerebral, neonatal, thrombosis, venous.

P56 - Continuity of neonatal care in a level II unit.

Marcela Pires Guerra[1]; Andreia Oliveira[1]; Lígia Peralta[1]; Filipa Inês Cunha[1]; Adelaide Bicho[1]; Luís Damas[1]; Paula Rocha[1].
1-Hospital Infante D. Pedro. Portugal.

Introduction: The Centre region of Portugal has 3 units with level III perinatal care (L3PCU) connected with levels I and II perinatal care units (L2PCU). The continuity of quality perinatal care is crucial for the early discharge of the preterm and/or sick newborn, keeping the permanent availability of intensive neonatal care in L3PCU. ***Objectives and Methods:*** Analysis of admissions for continuity of neonatal care to Hospital Infante D. Pedro's (HIP) L2PCU between 2006 and 2008, determining potential differences between preterm (group A) and term (group B) newborns. Case review of all newborns admitted for continuity of care. ***Results:*** During these 3 years 114 newborns were admitted for continuity of care (average=38/year), representing 10.4% of the total admissions and 29.0% of hospitalization days. Group A (80%): 33% of twin pregnancies, 17,6% with congenital anomalies, 76% admitted exclusively for prematurity with 37,4% being <34 weeks of corrected gestational age at time of admission, complications in 37,4%, mean duration of admission of 20.8 days, 10.5% referenced only to HIP's external consultation and 88.4% also to a L3PCU external consultation. Group B (20%): 100% of singleton pregnancies, 30.4% with congenital anomalies, the most frequent cause of transfer was respiratory pathology (39.1%), mean age of 9.2 at time of admission, complications in 26.1%, mean duration of admission of 10.5 days (median=7days), 47.6% referenced only to HIP's external consultation and 47.6% also to a L3PCU external consultation. ***Discussion:*** The planning of L2PCU has to take in consideration not only the newborns delivered in that hospital but also the newborns transferred from level III hospitals for continuity of care. The latter are responsible for a significant consumption of all available resources. The main differences between the 2 groups are the dimension, frequency of congenital anomalies and neonatal pathology, complications incidence, duration of admission and resource consumption.

Key-words: Continuity of care, newborn, pathology, preterm.

P57 - Intraventricular hemorrhage in preterm infants – Center experience of 5 years.

Marta Parada[1]; Sara Santos[1]; Lígia Basto[1]; Joaquim Tiago[1]; Raquel Henriques[1]; Rosa Ramalho[1].
1-Neonatal Intensive Care Unit (NICU), Maternidade Doutor Daniel de Matos, Hospitais da Universidade de Coimbra, Coimbra, Portugal.

Introduction: Intraventricular haemorrhage (IVH) is one of the most serious complications of prematurity. The anatomic classification based on cranial ultrasonography includes 4 grades with grade III and grade III with parenchymal lesion (grade IV) as the severe forms. The mortality from severe IVH is 27-50%, being the hydrocephalus the process that will compromise the brain development. ***Objectives:*** To identify and characterize the severe IVH cases, to determine de incidence of hydrocephalus and the need of drainage and finally the relation with the outcome. ***Methods:*** Retrospective study of 2004-2008 children with the diagnostic of severe IVH in our NICU. We reviewed all the medical records and evaluated outcomes at the age of 9-24 months. ***Results:*** We studied nineteen cases of severe IVH. The median gestation age was 26 weeks and the median birth weight was 940g. 0f the 19, 14 (74%) were of grade IV and 5 (26%) of grade III. Only three of the cases with grade IV IVH underwent to hydrocephalus, all drained by ventriculostomy. The incidence of hydrocephalus was 16% and the mortality rate was 52%, for all patients with severe IVH. Of the 9 (47%) surviving infants, at the age of 9 – 24 months, the 3 with no parenchymal brain lesions had normal development. One of the cases of grade IV IVH without hydrocephalus has hemiparesis. Of the 3 cases with hydrocephalus one has hemiparesis and other a cognitive disability. ***Discussion:*** Severe IVH remains an important problem, particularly when associated with parenchymal lesions and hydrocephalus. In our unit the practice on approaching to this problem is in harmony with the recent trials that propose conservative approach with cerebral spinal fluid drainage in controlling hydrocephalus. We are waiting for new strategies in order to prevent the hydrocephalus.

Key-words: Hydrocephalus, intraventricular haemorrhage.

P58 - Ischemic perinatal stroke.

Rita Monteiro[1]; Edmundo Santos[1]; Ana Nunes[1].
1-Unidade de Neonatologia, Serviço de Pediatria, Hospital de São Francisco Xavier, Centro Hospitalar de Lisboa Ocidental, EPE, Lisboa. Lisbon, Portugal.

Introduction*:** Ischhemic perinatal stroke (IPS) is a common, under-recognized cause of acute neonatal encephalopathy. Its incidence ranks second only to the incidence of stroke in the elderly. It is caused by a focal disruption of cerebral blood flow secondary to arterial or sinovenous thrombosis or embolization. ***Case report: Case 1 – term newborn who, at 12 hours of life, developed partial seizures of the right limbs. Cerebral ultrasound revealed a hyperechogenic lesion of the left caudate nucleus. CT scan showed extensive areas of ischemia in the left hemisphere. MRI confirmed the ischemic lesions and diagnosed a left lateral sinus thrombosis. The patient was treated with phenobarbital with complete remission. The study of coagulation did not revealed the existence of a prothrombotic state. The EEG showed epileptic activity in the left temporal region. Currently at 6 months, followed at the Child Neurology consultation as a slight asymmetry of brachial predominance with decreased mobility on the right. Case 2 – term newborn who started clonic movements of members at 48 hours of life that remitted spontaneously on day 3. Cerebral ultrasound revealed hyperechogenic lesion in the territory of the left middle cerebral artery. CT scan showed extensive ischemic injury with hemorrhagic areas involving the territory of the left middle cerebral artery. The study of coagulation has not demonstrated the existence of prothrombotic state. The EEG revealed epileptiform activity of the left temporal region. Currently followed at Pediatric Neurology consultation maintains at 9 months spasticity of the right arm. ***Comments:*** we report 2 IPS cases with neonatal presentation, one arterial, the other sinovenous in origin with none associated risk factors. MRI (conventional and diffusion-weighted) is the mainstay for the diagnosis to assess the origin, timing and location of injury. More studies are needed to better understand the mechanisms of IPS and to limit the associated morbidity.

Key-words: Congenital hypothiroidism, dysgenesis, PAX8.

P59 - Perinatal stroke.

Teresa Mesquita Guimarães[1]; Carmen Carvalho[1]; Pedro Pinto[2]; Romeu Cruz[2]; Paula Soares[1].
1-NICU - Júlio Dinis Maternity - Oporto Medical Center; 2-Neuroradiology Department - Oporto Medical Center. Porto, Portugal.

Introduction: Perinatal stroke involves an often poorly understood cerebrovascular event affecting the fetus and newborn with a potential for serious neurological morbidity. The reported aetiologies include cardiac disorders, infection, coagulation abnormalities, maternal and placental disorders and perinatal events. Perinatal arterial ischemic stroke (AIS) defined as a thromboembolic event that occurs between 20 weeks of gestation and 28 days of postnatal age, although underdiagnosed, is being increasingly recognized. Newborns with AIS may present either acutely, with seizures most frequently, or later, in a deferred fashion with motor or developmental delay. There is an emerging consensus that infants with confirmed neonatal seizures should undergo magnetic resonance imaging (MRI), since cranial ultrasound (CUS) is not always reliable in detecting abnormalities suggestive of cerebral infarction. ***Case report:*** One day old male infant, born at term to a 29 years old primigravida mother with negative serologies, via C-section. Birth weight appropriated for gestational age, Apgar 8 and 10. Noted to have general seizures later focused to the right leg with conjugated movement of the eyes to the right. Blood work up showed normal CBC, glucose, electrolytes, calcium and magnesium. CUS revealed diffusely increased echogenicity, more evident in the left temporal and parietal regions. Brain MRI showed a hyperintense T2-weigthed cortical-subcortical lesion in the left middle cerebral artery (MCA) territory with restricted diffusion and no haemorrhage, representing acute stroke. Clinical evolution was favourable without further seizures after phenobarbital and normal neurological evaluation to date. Maternal screening for prothrombotic disorders was negative. ***Discussion:*** Perinatal AIS is multifactorial and one of the commonest causes of seizures in term neonates. Outcome studies demonstrate a low mortality and a more favorable prognosis compared to older children, which have been attributed to plasticity of the immature brain. Perinatal stroke registries are needed to obtain data concerning risk factors, recurrence and outcome.

Key-words: Newborn, perinatal stroke; seizures.

P60 - Stroke in the neonatal period - two clinical cases.

Sónia Regina Silva[1]; Sofia Figueiredo[1]; Paula Rocha[1]; Adelaide Bicho[1]; Isabel Fineza[2]; Luís Damas[1].
1-Hospital Infante D. Pedro; 2-Hospital Pediátrico de Coimbra. Portugal.

Introduction: Cerebrovascular accident (CVA) is defined as an acute neurological syndrome resulting from brain damage of vascular origin. The estimated prevalence of stroke in the neonatal period (20WG-28DL) is 4-5/100000 RN / year and about 70% are of ischemic etiology. ***Case 1:*** Female newborn (NB), first child, watched pregnancy, without complications. Obstetric ultrasound

at 29th week of gestation with left mild pyelic ectasia. Instrumented labour at 40th week, with delayed extraction and bradycardia during expulsion. Apgar score of 5/8/9. Initially intermittent groaning and at 38h of life focal seizures later generalized, first treated with Phenobarbital (IV) but then requiring association of hidantina (IV), determined transference to the ICU of HPC. The seizures did not repeat after D1 of life, and the anti-convulsant therapy was suspended. Imaging study by CT and MRI revealed areas of infarction in the territory of left middle cerebral artery. Presented progressive improvement in neurological status and at D9 was transferred to the HIP for care. ***Case 2:*** Male NB, first child, watched pregnancy without complications. Delivery at 39th week, emergent cesarean section for fetal distress. Apgar 3/6/8. Abundant meconial fluids in the oropharynx. Admitted to NICU. At 10 hours of life, deterioration of respiratory status, requiring intubation and assisted ventilation and subsequent transference to the ICU of HPC. At D2 performed TF ultrasound and CT scan revealed extensive intracranial haemorrhage, requiring surgery and external ventricular deviation until D2. Developed several seizures, with good response to Phenobarbital, followed by gradual improvement in neuroimages. Unchanged coagulation study. Transferred on D23 to the HIP for maintenance care. ***Conclusion:*** The prognosis of stroke in children seems to be more favorable than in the adult, although there are few data on motor, cognitive and behavioral long term deficits. Even though, strokes cause cerebral palsy in more than 30% of cases.

Key-words: Neonatal, stroke.

P61 - Extreme and very low birth weight newborns in a neonatal intensive care unit.

Dária Rezende[1]; Carla Sá[1]; Albina Silva[1]; Eduarda Abreu[1]; Bernardete Fernandes[1]; Matos Marques[1]; Almerinda Pereira[1].
1-Hospital de Braga. Portugal.

Introduction: The very low birth weight (VLBW) newborns and particularly the extremely low birth weight (ELBW) have bigger difficulties to adapt to the extra-uterine life due to the physiological immaturity of their systems. ***Objective:*** Evaluate and compare gestation, delivery, morbidity and mortality in VLBW and ELBW newborns. ***Material and methods***: Revision of clinical files of ELBW newborns (<1000g) and VLBW newborns (1000-1499g), hospitalized in the Neonatology Unit from 01/07/2006 to 30/06/2009. Gestation, delivery, neonatal morbility (hospitalization), mortality, orientation data were collected. Applied tests: $\chi 2$ Independent t test, linear regression. Significant values p<0, 05. ***Results:*** Total number of newborns 83, 43,4%(36) ELBW and 56,6%(47) VLBW. Comparing the groups, mean hospitalization days of 84,2±77,3 at ELBW and 37±13,8 at VLBW (p=0,003). Mean gestational age 27,2vs30,6weeks(p<0,001), betamethasone administered in n=31/36vs37/47(p=0.022). There weren't significant differences in both groups regarding to sex (♂/♀=24/12vs25/22), maternal age (29.56 vs 31.04 years), gemelarity (n=12/36vs14/47), IUGR (n=13/36vs13/47), delivery type (normal/cesarean sections=7/29vs17/30). Comparing ELBW and VLBW groups (excluding dead babies): ventilation at birth n=25/30vs16/47(p<0,001), cardiac massage n=6/30vs0 (p=0.002), surfactant administration n=25/30vs16/47 (p<0,001), mechanical ventilation(MV) n=25/30vs11/47 (p<0,001), mean MV days 11,3vs1,8(p=0.002), hyaline membrane disease n=18/30vs13/47(p=0.003), bronchopulmonary dysplasia(BPD) n=9/30vs1/47(p<0,001), inotropic support n=23/30vs11/47(p<0,001), intraventricular hemorrhage n=19/30 vs14/47(p=0.004), nosocomial sepsis n=16/30vs10/47 (p=0,005), mean parenteral nutrition days 27,9vs13,7(p<0,001), hypoglycemia n=10/30vs6/47(p=0.034), hyperglycemia n=15/30vs7/47(p=0.001), blood transfusion n=19/30vs4/47 (p<0,001), platelets transfusion n=10/30vs2/47(p=0.001), mean epicutaneous catheter(EC) days 26,3vs10,2(p<0,001), retinopathy of prematurity n=9/30vs1/47(p<0,001). The presence of EC is associated to more cases of nosocomial sepsis and the MV to more cases of BPD (p=0,003). The mortality was 16.7%(6) in ELBW and 0% in VLBW(p=0.004). For each 100g increase in birth weight there is a decrease of 8,5days in hospitalization, 2,2days of MV and 3,3days in parenteral nutrition (t<0.001). ***Conclusions:*** In eminence of preterm delivery in fetus with VLBW and especially with ELBW, therapeutic decisions should be taken to prolong gestation and fetus´s maturation, because these attitudes reveal high importance in reducing mobility and mortality of newborns.

Key-words: ELBW, morbility, mortality, VLBW.

P62 - Acute kidney injury as a complication of cardiac surgery in neonatal period.

Cláudia Calado[1]; Andreia Pereira[1]; Adriana Pinheiro[2]; Sofia Deuchande[3]; Margarida Matos Silva[4]; Rui Anjos[4].
1-Hospital de Faro, EPE; 2-Hospital do Divino Espírito Santo; 3-Hospital S Francisco Xavier; 4- Hospital de Santa Cruz. Portugal.

Introduction: Continued advances in cardiac surgery techniques have urged marked improvements in children´s outcome, although persisting significant morbidity and mortality. There is a tendency to earlier corrective surgeries, nowadays more frequent in the neonatal period. Acute kidney injury (AKI) is one of the most common post surgical complications in the pediatric group, mainly in the newborns. We intended to apply the recent AKI RIFLE criteria to the neonatal group and to relate its occurrence to pre-operative and operative variables. ***Patients and Methods:*** Retrospective analysis of the clinical information about newborns submitted to cardiac surgery during 2007 and 2008. Statistical analysis (using SPSS 16.0© data base) relating AKI to pre-operative and operative variables. ***Results:*** We evaluated clinical processes of 33 newborns in a total of 260 congenital patients submitted to surgery in the referred period. Male gender prevailed (2,7:1), median age was 13,0 days and median weight 3,0kg. More prevalent cardiac diseases were: transposition of the great arteries (30,3%), aortic coarctation (21,2%) and pulmonary atresia (9,1%). Six newborns (18,2%) needed re-intervention or hemostasis revision. One child with aortic arch hypoplasia died during re-intervention. According to RIFLE criteria we described risk in two (6,1%) newborns, injury in ten (30,3%) and failure in six (18,2%). Three newborns needed renal replacement techniques (peritoneal dialysis). We resumed newborns with injury and failure to a single group (n=16) to evaluate risk variables and related it to: cardiac primary disease (p=0,014), cardiac bypass (p=0,021), more prolonged surgery (p=0,005), cardiac bypass (p=0,023) and aortic clamping (p=0,009). We did not identify as risk variables gender, age, weight nor creatinine value. ***Discussion:*** In accordance to the literature, we found AKI to be a considerable complication of neonatal cardiac surgery. We determined as AKI risk factors more severe cardiac disease and several surgical variables.

Key-words: Acute kidney injury, cardiac surgery.

P63 - "Self-healing" collodion baby.

Catarina Figueiredo[1]; Cristina Matos[2]; Teresa Tomé[2].
1-HPP-Hospital de Cascais; 2-Maternidade Alfredo da Costa. Lisbon, Portugal.

Introduction: The term "collodion baby" describes a condition in which the newborn is encased in a translucent, tight and shiny collodion membrane that cracks after a few days, revealing the underlying skin disorder. Most patients evolve to lamellar ichthyosis or nonbullous congenital ichthyosiform erythroderma. Sometimes there is an association with other ichthyosis, Gaucher´s disease and Sjogren-Larsson syndrome. Approximately 10% of all cases develop a mild phenotype of dry skin or heal spontaneously - the "self-healing" collodion baby's. ***Case presentation:*** Appropriate-for-gestational-age girl, born at 37 weeks gestation. The parents were consanguineous. After an uneventful pregnancy, cesarean section was performed for breech presentation. Collodion phenotype was noted. The newborn was placed in incubator and handled with aseptic technique. Umbilical vein catheter was placed for hydration, with fluid and electrolyte balance strictly maintained. A mixture of sterile vaseline and paraffin was applied to the entire body several times a day and a lubricant eye gel was used. Within the first week the membrane started to crack and peel off. On day 7 the children became febrile and were started on vancomycin and gentamicin, continued for 10 days after isolation of S. epidermidis from blood. During the second week, a new membrane formed and peeled off, revealing a normal-looking skin. She was discharged after 20 days of hospital stay. At two months of age she remains well, with no skin alterations. ***Discussion:*** Although "collodion baby" is a rare congenital condition, caregivers must recognize the problems resulting from an impaired skin barrier function. Morbimortality may be due to water loss, thermal instability, toxicity and infection. The outcome is uncertain with respect to the development of ichthyosis, demanding close follow-up.

Key-words: Baby, collodion, ichthyosis.

P64 - Herlitz subtype of junctional epidermolysis bullosa: case report.

Teresa Andrade[1]; Emília Santos[1]; Armando Laranjeira[1]; Arnaldo Rego[1]; José Rei Amorim[1]; Beatriz Sousa[1].
1-UCIN, Unidade Local Saúde do Alto Minho. Portugal.

Background: Junctional epidermolysis bullosa is a rare group of inherited disorders that manifests as blistering or erosion of the skin in response to little or no apparent trauma. The Herlitz subtype of junctional epidermolysis bullosa (JEB-H) is an autosomal recessive condition characterized by recurrent and persistent erosions of the epithelial surfaces that heal with exuberant granulation tissue. In addition, ulceration of the respiratory, gastrointestinal, and genitourinary epithelium affects many children. JEB-H is caused by mutations in the genes that encode laminin 5, a structural protein involved in the adhesion of epidermis to dermis. The mortality in the first year of life approaches 90%, in most cases for fluid and protein loss and sepsis. ***Case report:*** The authors report the case of a 2-days-old term newborn boy with exsudative nailbed and detachment of the fingernails. Shortly after, developed blisters and erosions in dorsal region and members, with progressive cutaneous extension, with 85% of the total corporal surface affected on the 38th day of stay (D38). Expontaneous ventilation with periods of supplementary oxygenation since D40, when fibroscopy showed presence of laringomalacia and supraglotic lesions. Enteral feeding until development of oral and esophageal lesions at D40. Several infections with letal sepsis at D49. The ultrastructural study of the cutaneous biopsy showed splitting in the lamina lucida of the basement membrane of the epidermis. Molecular analysis showed a homozygous mutation in the LAMB3 gene. Both parents are heterozygous for the same mutation. ***Comment:*** JEB-H is an autosomal recessive condition with severe prognosis. The accurate diagnosis allows the appropriate genetic counseling, as DNA-based diagnosis and fetal skin biopsy have been successfully established as prenatal tests in families at risk for recurrence.

Key-words: Blister, epidermolysis bullosa, genes, newborn.

P65 - Congenital medium sternal cleft with partial ectopia cordis.

Cláudia de Almeida Fernandes[1]; Catarina Dâmaso[2]; Gonçalo Cassiano Santos[3]; Luís Leal[3]; Manuel Pedro Magalhães[4]; Teresa Tomé[3].
1-Centro Hospitalar de Setúbal EPE; 2-Hospital Reynaldo dos Santos; 3-Maternidade Dr. Alfredo da Costa; 4-Hospital Cruz Vermelha Portuguesa. Lisbon, Portugal.

Background: Congenital sternal cleft is a rare chest malformation of unknown origin. Little is known about its incidence and pathogenesis. Depending on the degree of separation, sternal clefts can be classified as complete or incomplete. Incomplete clefts are subdivided into superior type and inferior ones. When surgery is performed shortly after birth, the procedure is easier and better results are achieved. ***Case Report:*** In a female neonate, 37 week's gestational age was noted a midline thoracic wall defect with a 2,5 x 3,5cm diameter overlying thin hypopigmented bulging membrane, evident during expiration and weeping. In inspiration a depression appeared in the same area, the anomaly was well tolerated without symptoms. The rest of the physical examination and cardiac, transfontanelar and renal ultrasound were unremarkable. Successful surgical repair was accomplished at 6 days of age. No evidence of cardiac compression was noted, and the patient remained hemodynamically stable both throughout the surgery and in the postoperative period. The patient is doing well after two months from the procedure. ***Discussion:*** In conclusion our case is especially unusual because it's a small medium sternal cleft associated with partial ectopia cordis which doesn't fit on the usual findings and/or classical sternal cleft classification.

Key-words: Ecopia cordis, sternal cleft.

P66 - Aneurysm of the ductus arteriosus - clinical report.

Teresa Mesquita Guimarães[1]; Ana Guedes[1]; Elisa Proença[1]; Ana Alexandrino[1]; Jorge Moreira[2].
1-NICU - Júlio Dinis Maternity - Oporto Medical Center; 2-Cardiology Department - Pediatric Cardiology Service, São João Hospital. Porto, Portugal.

Introduction: Congenital ductus arteriosus aneurysm (DAA) is a rare, potentially fatal abnormality, whose pathogenesis hasn't been fully elucidated. It has been assumed that DAA tends to resolve spontaneously as functional closure of the ductus ensues. However rupture, dissection, infection and thromboembolic complications may occur, accounting for significant morbidity and mortality. ***Case report:*** A female term neonate of a healthy 31 years old mother with normal serologies and prenatal ultrasound, was born by caesarean section, with a birth weight of 3500g. Apgar score was 8/10 and she was admitted to regular nursery. At 12 hours of age, she presented with tachypnea and chest retractions, with pulmonary ronchi and wheezing associated. There was no history of cyanosis or feeding difficulty and the remaining physical exam was normal. Chest radiography didn't disclose abnormal features and infectious screening was negative. Echocardiography showed an image suggestive of an aneurysmal dilatation of the ductus arteriosus with a diameter of 9mm and minimal shunt. In NICU, her clinical state evolved with transient respiratory distress and occasional stridor, without hemodynamic compromise. Bronchoscopic examination revealed normal anatomy, without evidence of com-

pression. Angio-magnetic resonance, in the second week of life, confirmed a milimetric DAA, with closed pulmonary end, without associated vascular ring. Follow-up ecocardiographic examinations demonstrated regression of DAA and presently the infant shows normal physical development. ***Discussion:*** DAA is probably still underdiagnosed and should be thought of and sought for in order to have this potentially life-threatening condition detected and treated adequately. Differential diagnosis includes "ductus bump", mycotic aneurysm of the left pulmonary artery or thoracic aorta, Kommerell´s diverticulum and primary middle mediastinal masses. In neonates, DAA can be hardly symptomatic and echocardiography has been very useful in diagnosing and monitoring the aneurysm for possible regression. If persistent or symptomatic, DAA demands medical or surgical correction.

Key-words: Aneurysm, ductus arteriosus, echocardiography, neonate.

P67 - Anti-human platelet antigen (Anti-HPA) negative neonatal alloimmune thrombocytopenia (NAIT).

Ana Sofia Nicolau[1]; Edmundo Santos[1]; Ana Nunes[1].
1-Centro Hospitalar de Lisboa Ocidental. Lisbon, Portugal.

Abstract: Thrombocytopenia, defined by a platelet count below 150 x109/L, is a common hematologic disturbance in the neonatal period, affecting 18 to 35% of neonates admitted to Neonatal Intensive Care Units. Severe thrombocytopenia (below 50 x109/L) carries a significant risk of hemorrhagic complications. Approach to diagnosis and treatment should take into account severity, time of presentation, gestational age and clinical status of the neonate and maternal history. Two newborns, male (Case1) and female (Case2), were diagnosed as severely thrombocytopenic in the first day of life (19 and 46 x109/L platelets respectively). The blood tests had been requested due to mild respiratory distress syndrome in the first and jaundice in the second. They were well-appearing at the time of diagnosis. Both had been delivered by cesarean section: due to fetal tachycardia on Case1 and decelerations on Case2, following term, adequately followed up pregnancies. Neither mother had thrombocytopenia. Case1's mother had had one previous abortion; Case2's pregnancy had been the first and complicated by mild hypertension. Apgar scores were 9/10 and 7/9. Screening for anti-platelet alloantibodies was requested for mother and child in both, but positive only for Case2. Transfusion with random platelets was done prophylactically on Case1 but the effect was negligible. Further testing revealed maternal alloantibodies against Class 1 human leukocyte antigen (HLA) in both cases. They were treated with intravenous immune globulin, not requiring further therapy. When faced with severe early onset thrombocytopenia in a well-appearing newborn, NAIT must be considered. Caused by the fetomaternal mismatch for human platelet alloantigens, it results from maternal production of anti-platelet antibodies against her child's paternally derived antigens. In over 90% of cases anti-HPA are the antigens involved. However, Class 1 HLA, expressed in platelets as well as leucocytes, can be involved in a small minority, making the diagnosis less straightforward.

Key-words: Alloimmune, HLA, HPA, neonatal, thrombocytopenia.

P68 - Neonatal Severe anemia - a case report.

Sónia Regina Silva[1]; Filipa Rodrigues[2]; Sofia Figueiredo[2]; Lúcia Borges[2]; Luís Damas[2]; Adelaide Bicho[2].
1-Hospital Infante D. Pedro; 2-Hospital Infante D. Pedro. Portugal.

Introduction: Anemia is defined as hemoglobin (Hgb) and hematocrit (Hct) below the normal range for age. It may be due to blood loss (eg, fetal-maternal transfusion), increased destruction (as in hemolytic anemia) or decreased production of red blood cells (eg aplastic anemia). ***Case Study:*** Female newborn, second child, uneventful watched pregnancy. Mother blood type AB Rh (D) positive. Unchanged prenatal ultrasound. Negative maternal serology, except IgM and IgG CMV positive since the first trimester of pregnancy. Cesarean delivery for fetal distress at 39 weeks. Meconial amniotic fluid. Apgar score 7/8/9. Somatometry at birth appropriated for gestational age. On exam showed marked pallor, no RDS, O 2 saturation of 98-100% with FiO2 of 21%, mean arterial blood pressure 29 mmHg. Laboratory tests showed: normocytic normochromic anemia (Hgb - 5 g / dl), reticulocytosis (15.5%), normal bilirubin and CRP 0.67 mg / dl. Blood typr A Rh (D) positive, negative TAD. Peripheral blood smear: severe anisocytosis, poikilocytosis, tear drop shaped red blood cells some fragmented, many erythroblasts. Kleihauer test positive. The red blood cell transfusion was uneventful. During hospitalization maintained good status. Tolerated enteral feeding from D2. The culture of CMV in urine was negative. ***Conclusion:*** This is a case of severe neonatal anemia caused by fetomaternal transfusion. At least 10% of pregnancies are small amounts of fetal red blood cells entering the maternal circulation. On rare occasions this amount is substantial and can produce a clinical status characterized by severe anemia, pallor and possible hypovolemic shock.

Key-words: Anemia, fetomaternal transfusion.

P69 - Neonatal abstinence syndrome: 10 years at a district hospital.

David Lito[1]; Patrícia Ferreira[1]; Alexandra Carvalho[1]; Cândida Mendes[1].
1-Neonatal Care Unit - Hospital de Reynaldo dos Santos, Vila Franca de Xira. Portugal.

Introduction: Neonatal abstinence syndrome (NAS) arises from withdrawal of drugs (most often opiates) abused by the mother during gestation. Sequelae of fetal drug exposure may occur in newborns, both in the perinatal period and long-term. ***Objectives:*** To characterize the population of newborns diagnosed with NAS regarding syndrome features, therapy, co-morbidities, and the relationship between drug type and clinical manifestations. ***Methods:*** Retrospective, descriptive analysis of records from newborns of addicted mothers, admitted to the Neonatal Intermediate Care Unit January 1999 - September 2009. ***Results:*** We identified 15 newborns (10 males) with NAS, averaging 1,4 cases/year (range 0-4). One third was born in the pre-hospital setting; two were preterm, 2 of low birth weight. Two newborns needed resuscitation and one, ventilation. Mothers' mean age was 30 years; 71,4% were multiparous; prenatal care was absent in 3, inadequate in 4. Nearly half the mothers had hepatitis C antibodies. One third abused multiple drugs, most frequently methadone (67%) and heroin (33%). In 3 cases the mothers' addiction was discovered through NAS. NAS severity revealed a maximum Finnegan score of 15. Tremors, high-pitched cry and poor feeding were the most frequent manifestations, but 3 newborns developed seizures. No correlation could be established between drugs and neonatal signs. The primary NAS pharmacotherapy was chlorpromazine (10 cases); this was changed in 4 newborns because of inadequate symptom control. Mean NAS duration was 20 days. All newborns were evaluated by Social Services and most referred to hospital outpatient services; of these, 73% were lost to follow-up. ***Conclusions:*** NAS was infrequent in our setting.

Although most cases were mild, the occurrence of seizures has prompted a change to opiates as the primary pharmacotherapy. HCV was a common co-morbidity. The scant prenatal care, frequent pre-hospital deliveries and loss to follow-up underscore the importance of social support systems in addition to medical care.

Key-words: Finnegan, neonatal abstinence syndrome, retrospective study.

P70 - A newborn with swollen legs and feet.

Rita Calado[1]; Helena Ramos[1]; M. José Mendes[1]; Sandra Claro[2]; Cláudia Canhoto[3]; Helder Ornelas[1].
1- Neonatal Unit, Department of Pediatrics, Hospital do Espírito Santo de Évora E.P.E.; 2-Physical Reabilitation Department, Hospital do Espírito Santo de Évora E.P.E.; 3-Physical Reabilitation Department, Primary Health Care Unit- Borba. Portugal.

Abstract: Primary lymphedema is a rare disease characterized by a firm edema of the lower extremities, generalized to the whole leg or limited to feet or toes. True congenital lymphedema usually presents either at, or soon after, birth and may be associated with other congenital malformations. Milroy's disease is a rare congenital familial primary lymphedema, with an incidence of approximately 1 in 6.000 newborn, resulting from autosomal dominant inheritance. Basic diagnosis can be made by the fact that swelling presents at birth and there is a family history of similar swelling. Decongestive therapy is the most widely accepted form of treatment. Long term prognosis is excellent if the condition is identified early and treatment begins soon after the diagnosis. Parental counseling concerning etiology, management, and possible complications is advisable. The report presents a case of a full-term male infant born of a 25-year-old healthy, gypsy woman, VG IIIP, with two spontaneous miscarriage pregnancies of unknown etiology and consanguineous marriage. The clinical examination of the newborn showed firm distal edema of both legs particularly severe below the ankle, with positive stemmer sign. The remaining clinical examination was normal. His mother, likewise, was born and still has an edema on left foot and leg. The clinical diagnosis of congenital lymphedema was made and conservative treatment was started. Presently he attends primary health care, daily, for compression pumping to reduce limb size. He also started to use compression stockings, effective in containing the edema.

Key-words: Congenital linphedema mylroi disease.

P71 - Ophthalmic drops causing apnea in an infant.

Alberto Berenguer[1]; Andreia Barros[1]; Cristina Aveiro[1]; Carmo Camacho[2]; Henrique Leitão[2]; Edite Costa[2]; J. Murta[3]; J. Luís Nunes[2].
1-Pediatric Department, Hospital Central of Funchal-HCF (Director: Dr. Rui Vasconcelos); 2-Pediatric and Neonatal Intensive Care, Hospital Central of Funchal-HCF; 3-Department of Ophthalmology - University Hospital of Coimbra. Coimbra, Portugal.

Introduction: Topical ophthalmic medications are usually prescribed for children by an increasing number of professionals but study of ocular pharmacology in children is often limited. Ocular application of medications can lead to abnormally high systemic levels: excessive dosing is common as drops can be difficult to administer in accurate amounts, drug absorption may be more rapid in infants and dosing are generally not weight-adjusted as are other pediatric medications. Brimonidine is a selective alpha-2 adrenergic agonist that reduces the intraocular pressure. It is highly lipophilic and easily transported by the blood-brain barrier increasing the risk for CNS depression. ***Case report:*** A 3-month-old male infant with bilateral congenital cataracts operated at the age of 1 month presented to our emergency department for evaluation of lethargy, hypotonia and intermittent apnea. He was the product of a full-term uncomplicated pregnancy. Newborn exam was remarkable for bilateral cataracts but was otherwise normal. There was family history of congenital cataracts but no other genetic illnesses. The infant was well during the perinatal period and was discharged on 4th day of life. He was submitted to surgery at 6 weeks of life. His postoperative medications included a number of ophthalmic drops: dexamethasone, timolol, dorzolamide, cyclopentolate and brimonidine. Hospital admission was required for stabilization. The reaction was presumed to be caused by the brimonidine drop and it was temporally discontinued. Since septic screening revealed urinary tract infection a subsequent administration of topical brimonidine was done producing similar symptoms. Further review of the case revealed that the patient´s episodes were each temporally related to the twice-daily administration of brimonidine ophthalmic drops. Treatment was terminated and he has been asymptomatic since. ***Conclusion:*** This case clearly illustrates central alpha-2 agonist adverse effects caused by brimonidine ophthalmic solution. It is therefore important to raise awareness of the potential systemic dangers of topical eye medications.

Key-words: Apnea, brimonidine, drops, hypotonia, systemic toxicity.

P72 - Clinical outcome of viral intestinal infection in preterm and term neonates.

Soyhan Bagci[1]; Anna M. Eis-Hübinger[2]; Atteyet F. Yassin[3]; Peter Bartmann[1]; Andreas Mueller[1].
1-Department of Neonatology, Children's Hospital, University of Bonn, Bonn D-53113, Germany; 2-Institute of Virology, University of Bonn, Bonn D-53113, Germany; 3-Institute for Medical Microbiology, Immunology, and Parasitology, University of Bonn, Bonn D-53113, Germany.

Background: Viral pathogens are the most frequent cause of gastroenteritis (GE) in infants and children. The clinical presentation and outcome of viral intestinal infections in preterm and term neonates have not been adequately evaluated. ***Patients and Methods:*** All term and preterm infants admitted to our tertiary neonatal intensive care unit from 1998 to 2007 with clinical signs of GE or necrotizing enterocolitis (NEC) in whom stool specimen were examined for viral pathogens (rotavirus, norovirus, astrovirus, adenovirus). Clinical data were retrospectively reviewed and compared between infants with different viral enteric pathogens in stool specimens. ***Results:*** In thirty-four infants with signs of GE or NEC, enteropathogenic viruses were found in stool specimens. Rotavirus was detected during an outbreak of gastrointestinal rotavirus infections in 12 cases, of which 2 infants had NEC. Compared with infants with rotavirus or norovirus infection, infants with astrovirus infection more frequently suffered from NEC ($p < 0.05$). In addition, an acute systemic inflammatory response was significantly more common in patients with astrovirus infection (astrovirus vs. rotavirus and astrovirus vs. norovirus $p < 0.01$ and $p < 0.05$, respectively). Of 8 children infected with norovirus, 4 (50%) had bloody stools and one of them had a systemic acute inflammatory response and NEC. ***Conclusions:*** This study demonstrates that in newborn infants, intestinal rotavirus, norovirus, and astrovirus infections may be associated with severe illness such as hemorrhagic enteritis resulting in bloody diarrhea or even NEC. The study provides further evidence for the clinical importance of intestinal viral infections in this most common gastrointestinal emergency in premature infants.

Key-words: Astrovirus, necrotizing enterocolitis, neonates, norovirus, rotavirus.

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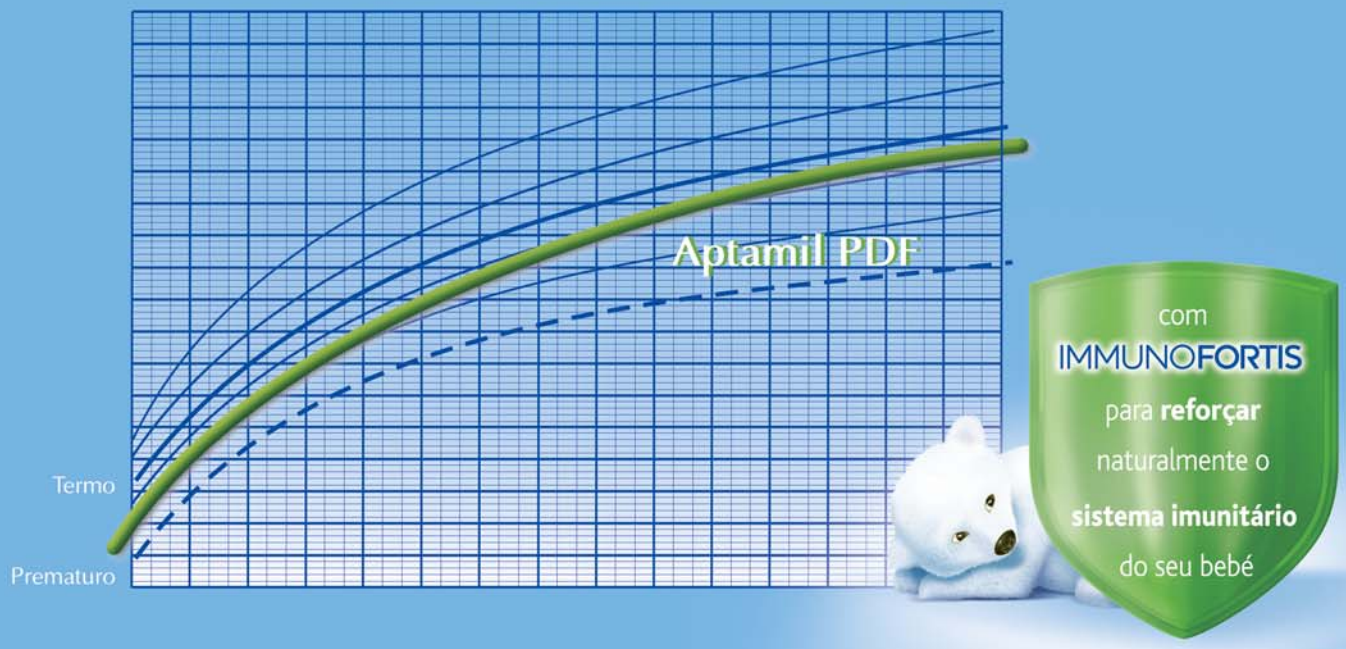

✓ Aptamil PDF, a única fórmula "post discharge" de acordo com as recomendações de Tsang *et al* 2005.

✓ Aptamil PDF, a única fórmula de acordo com as recomendações da ESPGHAN, relativamente a fórmulas "post discharge".

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