0031-3998/91/3010-0387$03.00/0
PEDIATRIC RESEARCH

Vol. 30, No. 4, 1991
Printed in U.S.A.

LATIN-AMERICAN SOCIETY FOR PEDIATRIC RESEARCH

ABSTRACTS FOR THE 28th ANNUAL MEETING
October 28–31, 1990—São Paulo, Brazil

1 NEUROPEPTIDE Y (NPY) CHANGES THE CARDIAC OUTPUT AND ITS DISTRIBUTION IN THE FETUS. E. Sanhueza; J. Carrasco; C. Gaete; V. Parraguez; R. Riquelme; A. Daniels; A. Llanos. Department of Preclinics Sci., Faculty of Medicine. University of Chile; Wellcome Research Laboratory. Division of Medicinal Biochemistry, North Carolina, USA.

NPY is a potent systemic vasoconstrictor in adults whose plasma concentration increase during stress. NPY has been detected early during gestation; plasma levels increase toward term. Since it is not known whether NPY exerts any actions on the fetal cardiovascular system, we investigated the effect of an NPY bolus (4 nm/kg + infusion 0.2 nm/min x kg for 30 min) on fetal heart rate, systemic arterial pressure, descending aorta blood gases and cardiac output and its distribution in 9 fetal sheep (0.92 ± 0.01 G.A.). Systemic arterial pressure and heart rate were continuously recorded. Cardiac out put and its distribution and calculated vascular resistances (VR) were determined at 0 min and 10 and 30 min after NPY administration. Studies were carried out 5 ± 0.3 days after surgery. Results were expressed as: $\bar{x}$ ± SEM. ANOVA and Neuman-Keuls tests were applied.

		Basal	NPY
Systemic arterial pressure	(mmHg)	45.8 ± 2.2	55.4 ± 2.1*
Heart rate	(1/min)	172 ± 8	143 ± 6 *
Cardiac output	(% of basal)	100 ± 3.9	77.8 ± 6.5*
Umbilical blood flow	(% of basal)	100 ± 6.9	76.0 ± 9.0*
Systemic VR	(% of basal)	100 ± 7.7	154.4 ± 13.6*

* $p < 0.05$

The increase in systemic vascular resistance along with the decrease in heart rate could explain the decrease of cardiac output in the fetus. These results suggest that NPY plays an important role in the redistribution of cardiac output during stress in fetuses.

2 RESPONSE TO A NEW STEROID (Deflazacort) IN CHILDREN WITH IDIOPATIC NEPHROTIC SYNDROME. J. Peñaloza; E. Sojo; M.G. Caletti; F. Mendilaharzu. Servicio de Nefrología, Hospital de Pediatría Prof. Dr. Juan P. Garrahan. Buenos Aires, Argentina.

We evaluated this new oxazolinic prednisolone derivate, comparing the response to treatment and side effects with the classic Prednisone treatment during the first episode of the disease in 19 children. Group A, was formed by 12 children; (age $\bar{x}$: 3.7 yrs. (10 to 72 m) who received 1.8 to 2.2 mg/kg/day of Deflazacort for 30 days and every other day for 30 more days. Group B: was formed by 7 patients; age $\bar{x}$: 3.1 yr (29 to 70m) who received prednisone at 1.5 to 1.7 mg/kg/day using the same schedule as in group A. Children were randomly assigned to either of these group. Results: In Group A: proteinuria disappeared between 7 and 26 days ($\bar{x}$ 13d) in 6 children. The other 6 without response were subsequently biopsied (2 children presented focal and segmental glomeruloesclerosis, 1 mesangial proliferation, 1 mininal changes) In Group B: proteinuria disappeared between days 4 and 10 ($\bar{x}$ 10.5 days). Steroid side effects (bulimia, hirsutism, overweight, psichological alterations and hypertension) were present in 6 of 7 children of group B. In Group A, these side effects were mild in half of the patients treated. While the disappearance of proteinuria was similar with Deflazacort and Prednisone, side effects were milder with the former.

3 INCLUSION OF QUALITATIVE DATA IN A QUANTITATIVE ANALYSIS. ML. Alvarez; F. Wurgaft; G. Icaza; M. Araya. Inst.de Nutrición y Tecnología de los Alimentos. Universidad de Chile, Casilla 138-11, Santiago, Chile.

The goal is to apply a computer program which makes possible the analysis of open questions in quantitative studies. 69 mother-infant dyads chosen by a validated predictor for persistent diarrhea were studied. The analysis was carried out in 3 ways: a) comparig the lower (24-34) and higher (35-73) scores; b) comparing the extreme scores (21-22 and 60-73) and c) comparing the age of the caretaker: < 17 and > 30 applying "verbatim" analysis. The lower number of points obtained in the predictor was associated with the older caretakers ($p < .04$), and with those who do not apply folk medicine ($p < .03$). In the extreme groups the lower number of points was linked to older caretakers ($p < .04$), and those who withheld formula bottle when the child had diarrhea ($p < .029$). In these groups, the verbatim analysis showed that mothers with lower (n= 10) scores associated the presence of diarrhea with contaminated food; those with higher scores either did not know or linked it to teething. As to when the infant should be taken to the doctor, the former stated that this must be between the 1st. and 3rd. day while the latter that it should be after the 3rd. day. Younger mothers (n= 9, 13-17 yrs old) did not know when the child should be taken to the doctor for an episode of diarrhea; the older (n= 8, 30-69 years old) did it on the first or second day. These results show that qualitative data can supply additional information for quentitative analysis. Qualitative data also help to know what the extreme groups of any population do or to develop more efficient approaches to the more vulnerable grups.

Supported by I.D.R.C. 3-P-88-0359.

4 NUTRITIONAL IMPACT OF A SUPPLEMENTATION AND EDUCATION PROGRAM ON THE RECOVERY OF PROTEIN-ENERGY MALNUTRITION (PEM): EFFECTS OF ITS SUPRESSION. L. Moreth; M.Fisberg. Prefeitura de Niterói (RJ), Nutricia S.A., Pediatria da Escola Paulista de Medicina - Sao Paulo - Brasil.

To prevent and recover protein-energy malnourished children, an education and dairy-food supplementation program supervised by a nutritionist was started in an urban poor community of Niterói Rio de Janeiro, Brazil. Nutritional status was assessed in 387 malnourished children before and after 3 to 8 months of intervention. Nutritional status was evaluated by anthropometry and classified according to Gómez. At the beginning, 51% of the children were malnourished (40%, 10% and 1% presented with malnutrition grade I, II, III, respectively). At the end of the program, PEM rates had decreased to 41% (36% grade I and 5% grade II). The best results were observed in severely affected children, during the first 6 months of intervention: 38% of overall recovery rate. This program was interrupted for 6 months by operational difficulties, in the mean time the other programs proceeded without changes. After this interruption in 310 of the 387 previously studied children, anthropometries were performed. PEM rates increased from 45% to 64% (grade I from 39% to 53% and grade II from 6 to 11%). Overall deterioration rate was 26%. Malnourished children and euthrophic children worsened 7 and 6 times more, respectively, when compared to the figures achieved during the program. This study emphasizes the efficiency of a simple supplementary food and educational program in the prevention and recovery of PEM children.

5 PREVENTION OF MORBIDITY IN INFANTS SELECTED BY A PREDICTIVE MODEL. M. Araya; J. Espinoza; O. Brunser; S. Cruchet; I. Pacheco. INTA, Universidad de Chile, Santiago, Chile.

A predictive instrument for persistent diarrhea (PD) was calculated by logistic regression. It was validated, applied to 720 families of low socio-economic stratum and 160 infants at risk were selected. Two cohorts were formed and followed for six months by weekly home visits. In CI a program aimed at avoiding PD was applied. CII constituted the "witness". Biological and socio-economic characteristics were comparable. Mother's behaviours in relation to child care were inadequate, they did not consult when the infant was ill and they did not immunize them. Drop out rate in CI and CII was high (20.6%). Total number of morbid episodes (ME) and respiratory infections were comparable in both groups. In CI and CII children were symptomatic 30.9% and 42.7% of time, mean duration of ME, diarrheal and respiratory episodes were 55.7d and 76.8d ($p < 0.001$), 8.8d and 14.1d ($p < 0.02$) and 38.0d and 51.5d ($p < 0.001$), respectively. In CII there were 4.9 episodes of diarrhea/child/year while in CI this was 3.7 ($p < 0.45$) and in "non-selected" population it is = 1. In CI PD was less frequent ($p < 0.037$). Conclusion: the instrument detected children with high risk for suffering morbid episodes, not only diarrhea. The intervention led mothers of CI to consult and this allowed to treat their children and the duration of episodes decreased. Maternal behaviours suggest that further studies are required to characterize the mothers and improve the results of programs aimed at these families.

Supported by FONDECYT 89-0922.

6 INVESTIGATION OF THE ZFY GENE IN PATIENTS WITH ANOMALOUS SEXUAL DIFFERENTIATION. D. Damiani; AEC. Billerbeck; ACK. Goldberg; N. Setian; M. Fellous; JE. Kalil; V. Dichtchekenian. Unidade de Endocrinologia Pediatrica, Fac. Med. Universidade de Sao Paulo, São Paulo, Brazil.

Four patients with 46,XX true hermaphroditism and one patient with 46,XY pure gonadal dysgenesis were analyzed with a Y chromosome-derived probe that detects a specific fragment in the short arm of the Y chromosome in the putative testicle-determining region and also a fragment on the short arm of the X chromosome. Normal males and females, individuals with Turner syndrome, and patients with various causes of anomalous gonadal differentation associated with cytogenetically present Y chromosome served as controls. The Y-specific fragment was not detected in any of the subjects with 46,XX true hermaphroditism. However, this fragment was positive in the 46,XY female and in all Y-bearing patients. Cytogenetic and molecular absence of the ZFY sequence in 46,XX true hermaphrodites calls for an explanation other than the classic embryogenic theory. The absence of testicular differentiation in the ZFY-positive XY female may be considered as evidence of functionally altered sex determination mechanisms or, alternatively, defective gonadal receptors.

7 ANTI-POLIOMYELITIS VACCINATION WITH ORAL TRIVALENT VACCINE IN NEWBORNS. LY. Weckx; BJ. Schmidt; AA. Herman; CH. Miyasaki; CK. Farhat; BI. Kopelman. Dep.of Pediatrics, Escola Paulista de Medicina, São Paulo, Brazil.

To evaluate the immune response to early vaccination against poliomyelitis with a live, atenuated, trivalent, oral vaccine 85 normal newborns whose weight was 2.500g and free of intercurrences were studied. They were randomly assigned to two groups receiving a different scheme of immunization: Group A received the oral vaccine at birth and at 2,4 and 9 months while Group B received the oral vaccine at 2,4 and 6 months.

In both groups, blood samples were drawn from the mother and from the cord at delivery and from the infants at 2, 4, 6, 8 and 12 months. Antibodies against polioviruses P_1, P_2 and P_3 were dosed through the neutralization technique. In addition to earlier immunity against poliomyelitis when the vaccine is administered at birth, the response to virus P_3 was significantly higher than in the group in whom the immunization was started at 2 months. At the end of the immunization program, the rates of susceptible infants were 3.7% in group A and 25.9% in group B.

8 THE RETINO-PINEAL AXIS FUNCTION IN FETAL SHEEP. VH. Parraguez; M. Vergara; SM. Yellon; F. Caray; F. Torrealba; M. Serón-Ferré. Depto. Ciencias Fisiológicas, Fac. de Ciencias Biológicas, P.Universidad Católica de Chile, Santiago, Chile and Division of Perinatal Biology, School of Medicine, Loma Linda University Ca, USA.

Melatonin is a light-sensitive hormone that conveys information about day lenght. The changes in melatonin production in response to light reflect the maturation of complex neuronal connections from the retina to the pineal gland. To investigate whether these connections operate during fetal life, plasma melatonin concentration was measured in nine chronically catheterized fetal sheep. These were operated on between days 109-135 of gestation and maintained in a 12:12 light: dark period. Ocular enucleation (OE) was performed in 5 of the fetuses. Blood samples were taken from all fetuses every 2 h for 24 h, at least 7 days after surgery. Melatonin was measured by RIA. Twenty days after delivery, the newborns were sacrified, and the pineal glands were removed and processed for cytochrome oxydase reaction. OE Fetuses had higher diurnal melatonin than control fetuses (402.4 $\pm$ 88.2 vs 107.5 $\pm$ 12 pg/ml, X $\pm$ SE, $p < 0.001$). Melatonin increased during the night in control and OE fetuses. Pineal histology showed increased cytochrome oxydase activity in OE fetuses. These results suggest that the fetal retinal-pineal pathway is directly involved in the regulation of melatonin in fetal sheep.

Supported by Grants RF 88077, CHI/LID 86 and FONDECYT 321/88.

9 SYSTEMIC ARTERIAL PRESSURE INCREASES DURING PREGNANCY IN THE LLAMA. JL. Guerrero; NL. Holmgren; FJ. Caray; R. Riquelme; AJ. Llanos. Lab. of Developm. Physiol. and Pathophysiol. Dept. of Precl. Sciences, East Area, Faculty of Medicine, U.de Chile, Santiago, Chile.

During human pregnancy, cardiac output increases and total peripheral resistance decreases resulting in a lower systemic arterial pressure. It is unknown whether pregnancy results in a decrease of arterial pressure in long neck animals. High systemic arterial pressures are necessary to provide an adequate blood flow to the brain, in these animals. The purpose of this study was to determine whether pregnancy modifies systemic arterial pressure in the llama and whether the alpha adrenergic system plays a role in this modification. Five-term pregnant and six nonpregnant llamas were catheterized on the descending aorta through a hind limb artery. Systemic mean arterial pressure (MAP) and heart rate (HR) were measured by means of a Statham P23 Db pressure transducer and a Gilson 1CM 5 polygraph, three times during 120 seconds for each animal. Measurements were performed 48 hours after surgery, before and after i.v. administration of phenoxibenzamine (bolus of 1mg/kg). Results were (unpaired Student's t test):

	Pregnant Llamas		Non Pregnant Llamas	
	Basal	Phenoxibenz.	Basal	Phenoxibenz.
MAP (mm Hg)	126.5 $\pm$ 6.3*&	88.1 $\pm$ 0.7	111.1 $\pm$ 1.6 &	97.0 $\pm$ 2.9
Δ MAP (mm Hg)	38.4*		14.1	
HR (1/min)	57.0 $\pm$ 3.0	70.0 $\pm$ 2.0*	56.0 $\pm$ 1.0	59.0 $\pm$ 2.0
Δ HR (1/min)	13.0*		3.0	

$\bar{x}$ $\pm$ S.E.M. * $p < 0.05$ Pregnant vs Non Pregnant; & $p < 0.05$ Basal vs Phenoxibenz.

Pregnant llamas have a higher MAP than non pregnant llamas. This is determined by a higher alpha adrenergic tone, since there is a greater decrease in MAP on pregnant llamas after phenoxibenzamine administration. The increase of HR in pregnant llamas after phenoxibenzamine administration suggest a baroreflex response. These findings differ from data obtained in humans and short neck animals. (Proyecto FONDECYT 89-1080).

10 PRIMARY HYPOTHYROIDISM: CLINICAL AND LABORATORY EVOLUTION. RLV. Barbosa; MS. Matsumoto; MO. Shimizu; BJ. Schmidt; A. Spindola-Castro. Dep. of Pediatrics, Escola Paulista de Medicina and APAE- S.Paulo-São Paulo, Brazil.

The clinical evolution and response to treatment of 47 patients with primary hypothyroidism diagnosed through neonatal screening was followed-up. At the time of diagnosis, the patients' mean age was 2.8 months. Mean birth weight and height were 3.260g and 49 cm, respectively. Mean T_4 and TSH values at diagnosis were 1.5 mcg% and 114.7 mU/ml, respectively. 9% of patients showed no signs or symptoms at diagnosis; 84% of the symptomatics still had clinical signs after 30 to 45 days of treatment and 10% after 60 days of treatment. 60% of the patients had elevated TSH levels up to 45 days after the onset of treatment. Fading of symptoms and TSH normalisation were influenced by the timing of onset of hormonal therapy. At 3 months of age, 47.5% and 77.5% of patients were below the 10th percentile for weight and height, respectively. These rates decreased to 10% for weight and 45% for height at 12 months of age. Thyroxine, was used for hormone replacement at a mean dosage of 100 mcg/m^2. 9 patients showed neurological and psychomotor retardation and delayed speach, according to the Denver test: 7 of them started treatment after 4 months of age.

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CHANGES IN NUTRITIONAL STATUS OF INFANTS SELECTED BY A PREDICTIVE INSTRUMENT. J. Espinoza; M. Araya; I. Pacheco; O. Brunser; S. Cruchet. INTA, Universidad de Chile, Santiago, Chile.

A predictive instrument of risk for persistent diarrhea was used to select a cohort of infants (N=59) of the low socio-economic stratum who were followed for six months. Children suffered four to five times more morbid episodes, nor only diarrhea, than "non-selected" infants. Among the results it was noticeable that infants' mothers had inapropiate behaviours in taking care of their offsprings, in applying the treatment for their morbid episodes and that they seldom contacted the health system. Therefore, it was deemed of interest to evaluate changes in the nutritional status of these infants.

	Height/Age		Weight/Age		Weight/Height	
	P[1]	%P_{50}[2]	P	%P_{50}	P	%P_{50}
Initial	37.6	98.8	42	97.8	61	102.0
Final	26.0	97.6	41.6	97.7	63	102.8

[1] = Percentil of the median of the groups; [2] Percentage of 50th Percentil of NCHS Tables.

Analysis of intragroup differences between the initial and final measurements showed a mean decrease of 5.3 points for H/A ($p<0.05$), of 4.7 points for W/A ($p<0.05$) and of 1.6 points for W/H (N.S.). Conclusion: the instrument selected children who had a high incidence of morbidity and deteriorated their nutritional status, despite the programs applied by the National Health Service. As expression of results, percentiles appear more adequate than the percentage of the 50th percentiles of the NCHS Tables.

Supported by: FONDECYT 89-0922.

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DOPPLER EXAMINATION OF RENAL TRANSPLANT IN CHILDREN. N. Delgado; S. Moguilansky; A. Turconi; A. Golberg; M. Monteverde; J. Golberg y M. Díaz. Transplantation Unit. Hospital J.P. Garrahan, Buenos Aires, Argentina.

Doppler sonography has been used to evaluate kidney transplant. The resistive index (RI=peak systolic frequency shift-lowest diastolic frequency shift/peak systolic frequency) has been advocated as a useful technique in the diagnosis of acute rejection. We performed a prospective study with Doppler examination and either histopatology or fine needle aspirative biopsy (FNABs) at 72 hs., 7-14 and 21-28 days postransplant in 21 children (mean age: 11.5 years, range 5y-17 years). RI were obtained in renal, segmentary, interlobar and arcuate arteries. FNABs were obtained with the Hayry and Von Willebrand methodology. Mean values of RI were: 0.62, range 0.48-0.72 (in n=13) with normal FNABs; 0.62, range 0.48-0.76 (in n=18) with acute tubular necrosis and 0.62, range 0.50-0.72 (in n=15) with acute cellular rejection 7 days postsurgery. RI equals to 1 with FNABs of acute rejection were obtained in two children during the first 72 hs after transplant and in 1 patient with hiperacute rejection. Absence of signal was noticed in 1 children with renal artery trombosis. Doppler sonography has been useful to evaluate vascular complications, hyperacute rejection or acute cellular rejection during the first 72 hs postsurgery. Resistive indexes of less than 0.70 do not exclude acute cellular rejection.

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CLINICAL AND LABORATORY EVOLUTION OF CHILDREN WITH NON-PKU HYPERPHENYLALANINEMIA. ACA. Adell; AM. Martins; LMJ. Albano; RM. Fisberg; TM. Carvalho; N. Loghin-Grossi; BJ. Schmidt. Dept. Pediatrics, Escola Paulista de Medicine and APAE - São Paulo - São Paulo-Brasil.

93 babies with hyperphenylalaninemia (blood phenyllalanine levels between 4.1 mg% and 14 mg% in two samples) had clinical and laboratory follow-up since the diagnosis was established. The purpose was to analyze the normalization of blood phenylalanine levels, to detect permanent hyperphenylalaninemia and its possible causes, as well as to evaluate their influence on neuro-psycho-motor development, since blood levels above 10 mg% may produce developmental delay. Out of 93 infants investigated, 80 (74.4%) showed normal phenylalanine blood levels (= or below 4 mg%) by 1 year of age and 9 of them (8.4%) by the age of 1 year and 6 months; the fastest normalization rate ocurred at 6 months of age in 17 infants (16%). In 4 cases (3.7%), blood phenylalanine levels did not normalize during follow-up. All 93 infants had normal neuro-psycho-motor development, independent of their blood phenylalanine levels.

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VEROTOXINE PRODUCING E. COLI (VTEC) AND HEMOLYTIC UREMIC SYNDROME (HUS). L. Voyer; M. Rivas; R. Wainsztein; M. Tous; B. Quadri; F. De Mena; S. Corti; N. Leardini; R. Callejo; S. Santarcangelo. Hospital de niños P. de Elizalde-Instituto Nacional de Microbiología . O.G. Malbran. Buenos Aires, Argentina.

Between January 1988 and December 1989, 40 children with HUS, 82 in-house contacts (IHC), 35 controls with diarrhea (DC), and 10 healthy controls (HC) were studied. 72.5% of HUS had received antibiotic treatment before admission. Stool samples were obtained at $\bar{x}$ 9.6 days (range 3-30) from the onset of diarrhea. In 29% of HUS one or more of their contact developed diarrhea contemporarily or prior to the subject index illness. Free fecal VT (FFVT) was investigated using cultures of Vero cells and neutralization techniques with monoclonal antibodies. Bacteriological studies included isolation and serotypification. FFVT was found in 12/40 (30%) of HUS (1 VT_1 and 11 VT_2), in 7/82 (8.5%) of IHC (5 VT_2 , 2 VT_1 and VT $_2$), in 1/35 (2.5%) of DC (VT_1 and VT_2) and 0/10 of HC. In 4 HUS (10%) and in 1 IHC, all of them positive for FFVT, VTEC corresponded to serotypes O157:H7 biotype D, O157:NM biotype C and O25:H2, all of them producers of VT_2. In one HUS, O157:H7 was associated to a O25:H2. Detection of FFVT was more frequent in HUS than in DC and HC ($p < 0,01$). Detection of FFVT in IHC suggests that intrafamilial transmission of the causative agent may explain the characteristic distribution of VTEC.

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SERUM IMMUNOGLOBULINS (Ig), IgG SUBCLASSES AND ANTIBODIES TO COW MILK PROTEINS (CMP) IN PROTRACTED DIARRHEA (PD). MFB. Almeida; MB. Morais; VC. Ferreira; U. Fagundes-Neto; DC. Heiner. Escola Paulista de Medicina, São Paulo, Brazil and UCLA-Medical School, California, USA.

The aim of this study is to measure serum IgG, A, M and E, IgG subclasses and IgC, A, E and G_4reacting whith skim milk, whole casein (CAS), a-CAS, B-CAS, k-CAS, whey, a-lactalbumin, B-lactoglobulin, bovine serum albumin and Y-globulin in Brazilian infants with PD.

PD patients: 19 infants, mean age 4.7 mo (1-12), mean weight 4063 gms (2000-6000), mean duration of milk diet 4.4 mo (1-12), mean duration of diarrhea 40 d(range: 20-90), 84% had jejunal bacterial overgrowth and /or enteric pathogens, 37% colitis and 95% abnormal jejunal mucosa. Control group (CG): 19 appropriate weight-for-age infants, mean age 5.9 mo (1-12), mean duration of milk diet 5.4 mo (0.5-12). IgC, A, M, G_1, $G_2$and G_3 were measured by radial immunodiffusion, IgE and IgG_4 by radioimmunoassay, and antibodies to CMP by modified radioimmunoassay. Nonparametrical tests were utilized for statistical analyses.

Patients with PD showed significant higher serum levels of IgG, A, M, E, IgG_1 and IgG_3 that could be secondary to increased Ig synthesis in response to enteric bacterial overgrowth. High IgE might be a consequence of genetic predisposition, cow milk hypersensitivity, intestinal parasites and/or immunosuppression. Significant higher serum levels of IgG, A, E and G_4 to most CMP were present in PD infants. These specific antibodies may be a mere reflex of a CMP antigenic stimuli. High levels of IgG_4 to CMP might be related to the pathogenesis of PD, with or without involvement of specific IgE against CMP.

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ERYTHROCYTE ENZYMES AND ABO-HAEMOLYTIC DISEASE OF THE NEWBORN. CR. Leone; OC. Barreto; K. Nonoyama; JLA. Ramos. Berçário Anexo à Maternidade. Hospital das Clínicas. Fac. Med. Univers. São Paulo, Brazil.

The activity of the erythrocyte enzymes has been studied in fetuses and newborns and some of them have been considered as indicators of red blood cell age. To identify the enzymes that earlier and more accurately could predict the occurrence of ABO-Haemolytic Disease (ABO-HD) in newborns, we evaluated the activity of Hexokinase (Hx); Pyruvate Kinase (PK); Glutamic-Oxaloacetic Transaminase (GOT); Glucose-6-phosphate Dehydrogenase (G-6-PD); Adenylate Kinase (AK); Acetylcholinesterase (AC); Glyceraldehyde-3-Phosphate Dehydrogenase (GAPD); Lactase Dehydrogenase (LDH) and isoenzymes, in the cord blood of newborns with (n=8) and without ABO-HD (ABO-compatible=35 and incompatible=21. Hx;G-6-PD; GOT; PK; AK; AC; GAPD and LDH activities were not different between the groups. The electrophoresis of the LDH isoenzymes, $LD_1$and LD_2, were statistically different between newborns with and without ABO-HD. The ratio $LD_1/LD_2 > 1$ was significantly associated with ABO-HD (sensitivity = 87.5%; specificity = 100%; positive predictive value 100% and negative = 95.5%. LDH isoenzymes in cord blood could be a sensitive and highly specific method for the diagnoses of ABO-HD.

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USEFULNESS OF RESISTIVE INDEX (RI) ESTABLISHED WITH DOPPLER IN POSTHEMORRHAGIC HYDROCEPHALUS (PHH). S.Morales; T. Gómez; A. Goldberg; S. Moguillansky; A.Sola Hospital de Pediatría "J.P.Garrahan", Buenos Aires, Argentina.

Cerebral blood flow can be estimated using Doppler Ultrasonography (US) and then be used to calculate RI. This index is an indicator of the resistance to cerebral blood flow determined by increased external compression of vessels. The RI was obtained dividing the difference between the peak systolic and the end diastolic velocities by the peak systolic velocity. A high RI indicates high intracranial pressure which can be secondary to hydrocephalus. The present study was designed to establish if the RI obtained with Doppler US can be clinically useful in deciding which infants with PHH will require ventricular drainage or surgical shunts. Normal values used were those published by Siebert in 1989 (RI = 0.75 $\pm$ 0.10) which are inversely related to Gestational Age. RI was obtained in the Middle and Anterior Cerebral arteries in both the internal Carotid arteries and the Basilar Artery. Values were obtained in newborn (NB), term and preterm infants with and without intracranial pathologies from October 1989 through July 1990. Data were analyzed using Fisher's Exact test. Statistical significance was established at the 0.05 level. Doppler US was performed in 58 NB. 12 had progressive or non progressive PHH. Seven of these infants underwent shunting. Five did well with medical management. RI was >0.9 in all 7 NB who required shunting, and <0.85 in those who did not need surgical management ($p<0.02$). Although these data are preliminary they suggest that in PHH a RI <0.85 is well tolerated and children probably will not require shunting.

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EFFECT OF BREAST FEEDING FREQUENCY ON SERUM BILIRUBIN (SB) LEVELS. A.Acquavita; N. Vain; M. Jeffrey Maisels; A. Cohen; N. Blanco; J. Digregorio. Sanatorio Güemes, Buenos Aires, Argentina and William Beaumont Hospital, Dept. of Pediatrics, Royal Oak, Michigan, U.S.A.

More frequent nursing has been suggested as a method for reducing SB levels. We randomly assigned mothers to "routine" or "frequent" nursing regimens. All had 24-hour rooming in. SB was measured in cord blood and between 48 and 72 hours after birth ($\bar{x}$55 $\pm$ 7.6 hrs). Based on previous data we planned to enroll 116 patients in each group (effect size 1.5mg. alpha = 0.05, beta= 0.1). We report 273 patients enrolled in the study:

	Routine n=142	Frequent n=131	p
Feeds/24 hrs.	6.8 + 1.0	9.1 + 1.4	.000
Max TSB mg/dl	7.7 + 3.0	7.1 + 3.1	.054
TSB 8 mg/dl	72 (50.2%)	51 (39%)	.042
TSB 13mg/dl	3 (2.1%)	3 (2.2%)	NS

The groups did not differ with regard to sex ratio, birth weight, gestation, number of stools per 24 hours or cord bilirubin levels. Linear regression analysis revealed no relationship between number of feeds per 24 hours and maximun SB (r = 0.06 p= 0.183). There was no significant difference in SB levels between infants fed 5-6 times and those fed 10 or more times per 24 hours (7.5 $\pm$ 3.2 and 6.9 $\pm$ 3 mg/dl, respectively (p = .131). Increasing the frequency of nursing may decrease the incidence of mild jaundice (SB $\geq$ 8 mg/dl), but it is unlikely to have a clinically important effect on SB levels in the first three days after birth.

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ETHICAL ISSUES IN NEONATAL INTENSIVE CARE (NICU):WICH IS THE OPINION OF PEDIATRICIANS AND NEONATOLOGISTS? G.Goldsmith; M.Rogido; A.Sola. Hosp. de Pediatría, Buenos Aires, Argentina.

Technological advances in NICU increased the number of ethical dilemmas. There are no local studies oriented to analyze the attitudes of pediatricians on ethical issues. This study aimed at identifitying those attitudes and factors participating in the decision-making process related to critically ill newborns (NB). A questionaire including three sections was sent to 450 Argentinian pediatricians and neonatologists who attended a meeting. The questions were: 1) medical and postgraduate training, 2) three hypothetical cases with several therapeutic options a) Down syndrome with duodenal atresia; b) dorsolumbar myelomeningocele with hydrocephalus; c) very low birthweight NB and perinatal asphyxia) and 3) general ethical issues; 99 questionaires (22%) were returned . Eighty three (84%) would have sent the patient (a) to surgery. To make the decision, 51% would consider parental opinion. In case (b) 65% would indicate surgery, 11% would provide only minimal care and nutrition and only 13% would change his/her decision if this would disagree with parental decision. For a NB with 890 g. at birth and severe perinatal asphyxia, 74% would not provide intensive care (IC). On the other hand, 85% would use IC for a 690 g. NB without perinatal asphyxia. Thirty percent stated that efforts should be applied in all circumstances in order to preserve life. Ten percent would not withdraw supporting life measures due to concern about litigation. To make decisions about medical care, 46% would include the parents' consent. The final decision was ascribed to an Ethics Committee by 15%; 70% considered that ethics should be taught in medical and postgraduate education. These preliminary data show great variability in the criteria to make a decision and scarce parental participation. There is a real need for ethical training of physicians who provide direct care to critically ill newborns.

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PERCUTANEOUS CATHETERS (PC): SHOULD BE REMOVED AFTER 72 HRS DUE TO INCREASED RISK OF INFECTION? I. Kurlat; G. Dalesson; G. Pesce; C. Rabasa; G. Castro; A. Manterola; A. Sola. Hospital de Pediatría, Bs.As. Argentina.

Survival of extremely premature and/or sick neonates has increased in the last decade. Prolonged periods of parental administration of fluids are needed to support these sick infants. In an attempt to avoid cut-down surgical placement of central lines and to maintain adequate IV access with little discomfort, routine placement of PC has been adopted in many Naonatal Intensive Care Unit. However the CDC (1986) guidelines for the prevention of nosocomial intravascular infections require the routine removal of IV lines no later than 72 hrs due to the possible increased risk of infection. The present study was designed to determine if PC positioned for$>$ 72 hrs have a higher risk of infection in the neonates, thus supporting the indication for routine removal. Neonates who had PC placed in 3 opportunities periods between 1/1/90 and 31/7/90 were included in the study. Duration of PC and cause of removal were recorded. Infants were considered septic (S) if they had clinical evidence and positive blood cultures. Infants were considered non septic (NS) if they had no clinical signs of infection and/or negative blood cultures. Infants with clinical sepsis and negative blood cultures, and infants with positive cultures but no clinical evidence of sepsis were excluded. Risk of infection was determined using contingency tables, and the 95% confidence limits (95% CL) by the Method of Cornfield. Risk was considered significant if the 95% CL did not include 1. Infection was detected in 7/26 (27%) infants with PC $>$ 72 hrs, and in 2/9 (22%) infants with PC $<$ 72 hrs. Relative risk was 1.28 (95% CL: 0.209- 7.94). These preliminary data suggest that there is no increase risk of infection in neonates who have had PC for $>$ 72 hrs. In neonates, routine removal of PC would not be indicated based only on a possible increased risk of infection.

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EFFECT OF ADRENALECTOMY AND HYDROCORTISON ACETATE ON PLASMA AND TISSUE ZINC DISTRIBUTION. A STUDY IN RATS. FJ. Nóbrega; A.Seber; CF.Oliveira; F.Ancona-López; OMS.Amancio; SS.Queiroz; M.Fisberg. Department of Pediatrics, Paulista Medicine School, São Paulo-SP-Brazil.

The influence of adrenal hormones on zinc plasma and tissue (brain, muscle, liver, bone and testicle) distribution was studied by atomic absorption spectrophotometry in rats. Five groups of male EPM 1 Wistar rats, 90 days old and weighing 250 to 360g, were formed: for the study of adrenal hypofunction: A-intact control, C-sham operated, D-adrenalectomized; for the study of adrenal hyperfunction: A-intact control, B-control with placebo + 0,2ml of hydrocortisone acetate solvent, C-sham-operated, E-adrenalectomized + hydrocortisone acetate. No statiscal significant difference were found between plasma (ug/dl) and testicle (ug/g dry tissue) zinc values in groups D and E. For the other tissues the zinc values in these groups were: liver 47.90 $\pm$ 13.28 and 69.95 $\pm$ 11.44 ($p<0.001$); muscle 24.25 $\pm$ 1.83 and 35.47 $\pm$ 7.86 ($p<0.01$); bone 103.78 $\pm$ 7.17 and 126.74 $\pm$ 11.91 ($p<0.001$), respectively. For the brain, values in group D were higher than in group E. The results show that hydrocortisone plays an important role in the distribution of organic zinc since adrenalectomy elicited a fall of zinc level in several tissues and adrenal hyperfunction acted in maintaining or increasing it.

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RELIABILITY OF INTRAVENOUS FLUID INDICATION AND PREPARATION IN THE PEDIATRIC WARDS. H. Lajarraga; M.A. Paredes; A.Dal Bo. Hospital de Pediatría "Prof. Dr. Juan P. Garrahan", Buenos Aires, Argentina.

The survey was carried out in six admission units of a Hospital which is a tertiary level care Hospital which has one doctor for every 3.4 beds and one nurse for every 1.16 beds. 87% of 204 admitted children received a 5% glucose intravenous solution with the addition of different electrolyte concentrations. One fluid bottle per day in each unit was selected at random for 14 days. Na, K and glucose concentration were measured in each bottle and compared to those prescribed by the doctors. Out of 66 samples 44% differed in more than 2 meq/l of the K concentration. The greatest diference was - 25 meq/l. 65% of samples differed in Na concentration. Variations were in more than 4 meq/l. The greatest difference was: - 70 meq/l. Glucose concentration varied between 3.4 and 5.8%. Errors were due to either medical error in calculating the amount of Na and K to be introduced in the glucose solution bottle or medical error in writting down the prescription or nurses errors in the preparation of the solutions. 57% of errors occurred between 9.00 PM and 7.00 AM. These alarming results underline the need for continous and strict supervision of the composition of IV fluids and the need for teaching programs for doctors and nurses.