

EARLY ONSET NEONATAL SEPSIS (ENS) FOLLOWING PREMATURE RUPTURE OF MEMBRANES (PRM) LATER THAN 24 HOURS: EVALUATION OF 3 ALTERNATIVE TESTS TO BLOOD CULTURE. M.L. Cetadilla, F. Rosetti, L. Ochoa, H. Forgiome, M. Nejmakis. Department of Microbiology, School of Medicine, Univ. of Buenos Aires; & Neonatology Unit., Alvarez Hospital, Buenos Aires, Argentina.

Objective: to determine the incidence of ENS in children born more than 24 hs. after PRM, and to evaluate the diagnostic reliability of 3 tests alternative to blood culture; namely culturing external auditory canal (EAC) swab, nasopharyngeal aspirate (NPA) and gastric aspirate (GA).

Material and Methods: by a prospective cross-sectional design, 146 newborns with PRM > 24 hs. (91 females & 55males), born between September 1990 and May 1992, were studied. Blood culture was performed within the first 3 hours of life and EAC, NPA and GA cultures and birth. ENS was considered present when clinical manifestations of sepsis were evident within the first 48 hs. and blood culture proved positive. Newborn from mothers on prior antibiotic therapy were excluded.

Results: ENS incidence in newborn from mothers with PRM >24 hs. was 16.4% (24/146), distributed as follows: 3.4% (5/146) associated to PRM alone without any other aggravating factor; 6.2% (9/146) when PRM was associated to chorioamnionitis; and 6.8% (10/146) with preterm birth. Isolated Gram positive microorganisms were S.aureus (n=9), S. pneumoniae (n=3), S. viridans (n=2), enterococcus (n=1) and L.monocytogenes (n=1); Gram negative were K.pneumoniae (n=5), E.coli (n=2) and H. influenzae (n=1).

ALTERNATIVE TESTS	Sensitivity (%)	Specificity (%)	Positive predictive value (%)	Negative predictive value (%)
EAC	54	93	59	91
NPA	38	93	50	88
GA	25	97	67	87

Conclusions: \* ENS incidence in children born later than 24 hs. following PRM confirmed by blood culture was 16.4%.

\* None of the optional tests evaluated reached the required diagnostic reliability (sensitivity plus specificity) to be employed as an alternative test to blood culture for the diagnosis of ENS following PRM > 24 hs., but may be used as complementary methods for the evaluation of high risk newborn.

NATIONAL STANDARDS OF HEIGHT FOR TURNER SYNDROME (S.T.) FROM 0 TO 20 YEARS.

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Distance standards for height were constructed on a sample of 254 girls with T.S., with different karyotypes (47% XO, 53% other types) and treated with oestrogens during puberty from a mean age of 13.98 yr. (SD 2.0). Patients were measured at intervals ranging from 0,5 to 1,5 years during 1 to 11 years at the division of Endocrinology Htal. R. Gutierrez.

Fiftieth centile was estimated by adjusting a 5 degree polynomial to the mean height obtained at each 0,5 year interval. Residual SD of the fitting was very low (0,8 cm.). First derivative of the median distance curve showed that adult height (height velocity less than 0,2 cm/year) is attained at 18,2 yr. Mean adult height was 137,9 cm. with SD of 5,7 cm., very similar to the SD found in healthy argentine female population. Chi Square test for differences between distribution of raw data among selected centiles and theoretical expected distribution was not significant. The differences between adult height of local Turner girls and adult height of Turner girls from other population are similar to the population differences between normal girls.

MANAGEMENT OF NEONATES WITH Rh INCOMPATIBILITY AND PREVIOUS IN-UTERO TRANSFUSIONS.

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Introduction: Severe anti-D hemolytic disease carries a high risk of fetal and neonatal morbidity and mortality.

Objective: To present the results of management of neonates with Rh incompatibility treated in-utero with transfusions.

Material & Methods: A total of 30 neonates were studied. The level of hemoglobin and bilirubin at birth, the presence of hydrops fetalis, and the need for mechanical ventilation and correction of hematologic parameters were assessed.

Results: Hydrops fetalis was present in 8 cases (27%). Mean gestational age at delivery was 33.42 weeks, and mean birthweight was 2017±348 g. In 63% of the cases cord blood hematocrit was below 30%, and in 70% bilirubin was higher than 4 mg%. Neonatal transfusional therapy was required in 90% of the cases, and exchange-transfusion in 73% of them. Twenty-one babies underwent mechanical ventilation, and there were 6 neonatal deaths. Mean neonatal survival rate was 80%.

Conclusion: Successful treatment of neonates with severe Rh incompatibility and previous intrauterine transfusions depended on the degree of prematurity and asphyxia, on the fetal hemodynamic condition, and on the presence and severity of hydrops fetalis.

EFFECT OF REPEATED DOSES OF PERFLUOROCARBON (FC100) ON ARTERIAL BLOOD GASES (ABG) AND LUNG COMPLIANCE (C) IN PRETERM LAMBS (PL).

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A simple intratracheal dose of FC100 improves C and ABG in PL with surfactant deficiency. Since the effect of repeated doses of FC100 on pulmonary function is unknown, we compared ABG and C in PL of 125 days gestation given 3 doses of FC100 or Exosurf. We studied 8 PL that were ventilated with PIP 35 cmH<sub>2</sub>O, PEEP 3 cmH<sub>2</sub>O, IT 0.4 s, 40 bpm and FIO<sub>2</sub> 1.0. Only PIP was modified to maintain PCO<sub>2</sub><60 Torr. When ABG reached a PCO<sub>2</sub>>60 Torr they were randomized to receive FC100 (3 ml/kg,n=5) or Exosurf (5 ml/kg,n=3) intratracheally. Follow up doses were given between 90-120 min after of the last doses, depending on the existence of respiratory failure (PO<sub>2</sub>< 50 and/or PCO<sub>2</sub>> 60 Torr). The results were: X ± SEM (\*p < 0.05 vs basal value, ANOVA).

	pH (U)	PCO <sub>2</sub> (Torr)	PaO <sub>2</sub> (Torr)	C(ml/cm H <sub>2</sub> O x kg)
Before 1st doses	7.06 ± 0.01	75 ± 2	27 ± 3	0.23 ± 0.02
30 min After	7.13 ± 0.05	56 ± 5 *	137 ± 15 *	0.39 ± 0.01 *
Before 2nd doses	7.30 ± 0.06 *	42 ± 2 *	41 ± 2	0.49 ± 0.03 *
30 min After	7.25 ± 0.01 *	46 ± 4 *	106 ± 12 *	0.44 ± 0.03 *
Before 3rd doses	7.32 ± 0.05 *	43 ± 3 *	34 ± 1	0.40 ± 0.02 *
30 min After	7.21 ± 0.02 *	54 ± 2 *	49 ± 8	0.42 ± 0.02 *

The group of PL treated with FC100 had significant improvements of ABG and C, whereas Exosurf did not result in any improvements. These data suggest that repeated doses of FC100 may be useful for treatment of preterm infants with surfactant deficiency.

ORTHOTOPIC LIVER TRANSPLANTATION (O.L.T.) IN CHILDREN.

COMPLICATION IN THE EARLY POSTOPERATIVE PERIOD (E.P.P.)

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The aim of this preliminary study is to evaluate, retrospectively, the influence of different variates, before and during surgery, in relationship to the complications in the E.P.P. This period is defined as the first seven days after surgery.

As a continuation of our O.L.T. program, since november 1992 until now days, we performed 8 O.L.T. in children.

The studied variates were: 1) Waiting time. 2) Physical state. 3) Preoperative serum albumin level. 4) Surgical time, 5) Ischemic time. 6) Cold ischemic time. 7) Volumen of fluid given in surgery. 8) Bile production. 9) Metabolic disorders (hypokalemia, hypocalcemia, metabolic alkalosis, hypernatraemia). 10) Reduced size segmental liver. The postoperative complications were: a) Mechanical ventilation time and pulmonary pathology. b) Acute renal failure. c) Surgical complications. d) Infection. e) Rejection.

The logistic regression test was used as statistical analysis.

No variates showed statistical significance.

We can conclude that the lacking statistical significance may be linked to the few cases we analyzed. However, we have found a relation between fluid balance during surgery and pulmonary complication. We consider this is a very important valoration to decide weaning procedures.

SHOULD WE STICK TO THE PRACTICE OF SUCTIONING NEWBORNS (NB) BORN THROUGH MECONIUM STAINED AMNIOTIC FLUID (MSAF)?

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Since Gregory showed that the Meconium Aspiration Syndrome (MAS) decreased with tracheal suctioning, this has become standard practice. Recently it has been suggested that suctioning should be done only in depressed NB who require positive pressure ventilation, since vigorous NB will not have meconium (mec) below the vocal cords (VC) and will therefore, not aspirate. However, we have seen vigorous NB developing MAS. The present retrospective study was undertaken to establish if in our Unit, the indication of universal suctioning of NB with MSAF is still valid. Clinical records of all NB with MSAF FROM 1/89 through 12/92, were retrospectively reviewed. The following variables were analyzed: 1 minute (A1) and 5 minute (A5) Apgar Scores, mec thickness, presence of mec below VC, complications of intubation, and incidence of MAS. Of 2923 consecutive births, 203 had MSAF (5%); 19/203 had A1 < 3 and 5/19 had A5 < 5, all had thick mec below VC, all were suctioned, 3 developed MAS. Of the vigorous NB, 92 had mec below VC, 21/92 had thick mec; all were suctioned and none developed MAS. There were no complications due to intubation. These data show that in both depressed and vigorous NB, mec can be found below VC. We speculate that suctioning vigorous NB prevented MAS. We conclude that until further conclusive data are available, the possibility of aspiration and MAS is present in vigorous NB and that all infants born through MSAF especially if mec is thick, should be suctioned to prevent MAS.