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BRAQUIAL PERIMETER AS INDICATOR OF THE NUTRITIONAL STATUS. NORMAL VALUE DETERMINATION ON FIRST YEAR CHILDREN. Ortiz Calvache W.O. Medical Faculty at

Central University of Ecuador.

Two samples were taken from children under one year. The control sample was composed by 30 boys and 25 girls, followed monthly for a year from their birth. They belonged to families of comparable socioeconomic and cultural level. The study sample was composed of 787 children (405 boys and 382 girls), who were studied by means of a transversal cut. All measurements were taken by the author using standardized anthropometric techniques. The weight curve of the two samples came out to be the same determined by the National Nutritional Institute of Ecuador, with no significant differences. The curve of the left arm perimeter was also comparable in the two samples. There is a difference of 0.2cm. in favor of the males. The curve increases rapidly up to the fourth month and then it shows a deceleration and stabilizes up to the year. The values were: 1st month: 10.54 ± 1.6 ; 2nd month 11.75 ± 1.12 ; 3rd month 12.49 ± 1.04 ; 4th month 12.97 ± 1.20 ; 5th month 13.23 ± 1.01 ; 6th month 13.49 ± 0.97 ; 7th month 13.61 ± 1.17 ; 8th month 13.72 ± 1.12 ; 9th month 13.73 ± 1.0 ; 10th month 13.50 ± 1.05 ; 11th month 13.75 ± 0.85 ; 12th month 13.90 ± 0.80 .

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ESTIMATION OF FETAL LUNG MATURITY AND GESTATIONAL AGE BY AMNIOTIC FLUID PARAMETERS. Caballero Barreiro C., Bustos R., Gaviria J., Vinacur J. Asuncion Paraguay.

This study correlates some parameters for gestational age estimation with amniotic fluid data of fetal lung maturity, obtained in the third trimester of pregnancy. Eighty three amniotic fluid samples obtained from 47 complicated pregnancies were processed. The parameters studied were: a) Amniotic fluid spectrophotometry, b) Percentage of fat cells in amniotic fluid c) Gestational age according to amniotic fluid parameters, d) Lung surfactant in amniotic fluid (Clement's test), e) L/S ratio in amniotic fluid, f) Gestational age determined by examination of the neonate. A statistically significant correlation was found between Clement's test and percentage of fat cells in amniotic fluid, increase in optical density, and estimate of gestational age by amniotic fluid parameters. On the other hand, when the fat cells and gestational age by amniotic fluid parameters, no statistically significant relationship was found. It is stressed that special care should be taken in those cases in which parameters for gestational age estimation indicate fetal maturity and those of fetal lung maturity are in disagreement. If pregnancy is interrupted, the infant might develop respiratory distress syndrome (RDS), the main cause of morbidity-mortality in the neonatal period.

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CARDIOVASCULAR RESPONSES TO ALPHA MSH IN THE FETAL AND NEWBORN SHEEP. A.J.Llanos, M.Seron-Ferre, J.Ramachandran, M.Heumann, A.M.Rudolph and R.Creasy. Dept.

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The cardiovascular effects of alphaMSH and related peptides have not been studied extensively. Although there are some observations of adult animals, no studies have been conducted of the fetal and neonatal circulation. Therefore we examined the responses to an i.v. bolus of 75 micrograms of alphaMSH on heart rate (HR) mean arterial pressure (MAP), aortic blood flow (ABF), and stroke volume (SV) in 9 newborn lambs (15 to 27 days) and in fetal sheep (110 to 133 days gestation). An increase in ABF and decrease in MAP was observed following alphaMSH injection in the fetus (140 ± 38 to 158 ± 40 ml/Kg/min, $p < 0.005$ and 41.7 ± 1.8 to 39.0 ± 1.6 mm Hg $p < 0.0125$ respectively) (mean \pm SE). There was no significant modification of fetal HR or SV. In the newborn, there was an increase in ABF (257 ± 25 to 326 ± 33 ml/Kg/min, $p < 0.005$) and HR (106 ± 8 to 122 ± 10 beats/min, $p < 0.005$) and a decrease in MAP (73 ± 4 to 69 ± 5 , $p < 0.005$) after alphaMSH injection. There was no modification of the SV in the newborn lamb. Beta blockade with propranolol (1mg/kg) did not prevent the rise in ABF and HR observed after the same dose of alphaMSH in the newborn lamb. These results indicate that alphaMSH is able to increase the left ventricular output in the newborn and fetal sheep and its mechanism of action is not through beta adrenergic receptor (Supported by NIH Grant HL06285 and HD06619).

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PROLONGED RUPTURE OF MEMBRANES ON HYALINE MEMBRANE DISEASE INCIDENCE. Ceriani Cernadas J.M., Rossato Norma. Htal.Mat.Inf."R.Sarda".Buenos Aires.Argentina.

A prospective study to clarify the relationship between Prolonged Rupture of membranes (PROM) and Hyaline Membrane Disease (HMD) was carried out. 56 appropriate for gestational age pre-term infants were included. In 19 of these patients, rupture of the membranes occurred 24 hrs. or more, before birth, and in the other 37 the rupture of the membranes took place less than 24 hrs. before delivery. The incidence of HMD was 10.5 % in the group with PROM vs. 56.7 % in the group without PROM. ($p < 0.001$). When divided according to their gestational age the difference was yet significant below 32 weeks and between 32-34 weeks, whereas it was not at 35-36 weeks. The incidence of neonatal bacterial infection was higher in the group with FROM. There was no difference in mortality between groups. While bacterial infection was the most frequent fact associated with death in the group with PROM, 75 % of the deaths in the no PROM group were due to HMD. This data suggests that PROM prevents within certain limits HMD.

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OPTICAL DENSITY RISE IN AMNIOTIC FLUID AND THE NEED FOR EXCHANGE TRANSFUSION. Peña J.L. and De los Santos F. Neonatal Department.Htal.P.Rossell.Montevideo.

Optical density (OD) moderate rise to 450 mu in amniotic fluid (AF) for Rh-sensitized mothers is placed in lowest Liley zones. Lack of fetal death and the so-called unaffected fetus for newborn (NB) in this zone are of good prognosis. The relationship between OD rise in AF and severity of anemia was studied in 20 NB together with the need for exchange transfusion. Significant correlation between OD rise and cord blood hemoglobin (Hb) ($r_s = -0.77$, $p < 0.005$) was found. Significant dependence between cases in Liley zones 1 and 2 with Hb an indirect bilirubin cord blood was found ($U = 1.5$, $p < 0.001$ y $U = 6.5$, $p < 0.002$ respectively). There was no significant relationship between values in Liley zones 1 and 2 and the need for exchange transfusion ($p = 0.075$, Fisher). Although there is significant relationship between OD values in Liley zones 1 and 2, and Hb and bilirubin cord blood values, it is important to point out the need for exchange transfusion in newborn placed in Liley low or unaffected zone.

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DETERMINATION OF L/S RATIO AND CORTISOL IN AMNIOTIC FLUID RELATED TO GESTATIONAL AGE. Bustos R., Giussi G. Centro Lat.Amer.Perinatologia.Montevideo.Uruguay.

Both clinical observations and experimental studies suggest that corticoids participate in the biochemical development of the fetal lung. The physiological role of corticoids has recently been questioned regarding their stimulation of surfactant production although they act as inducers of lung maturation when given to the fetus or mother. Animal experimentation shows that the increase in surfactant production is not preceded by an increase in cortisol levels, although there is an increment of other hormones. The phospholipid pattern in amniotic fluid was studied simultaneously with cortisol levels at different gestational ages. It was found that while L/S increased from the 30-32nd until 36-38th week, no statistically significant increase was found for cortisol for this same period. Whereas the average value of L/S for the 30-32nd week is 0.5 and increases to 4.02 at the 36-38th week, cortisol levels vary from 45.2 to 61.3 ng/ml for the same period of time. There was no statistically significant difference between cortisol values. These results support findings made in animal experimentation and suggest that fetal lung surfactant production does not necessarily depend on the increase of fetal cortisol levels.