

BLADDER DIVERTICULAE (BD) CONGENITAL OR ACQUIRED?  
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5 We describe 33 patients (11 males, with ages less than 13 years) having BD which were found during radiologic examination of urinary tract infection (UI), vesico ureteral reflux (VUR), enuresis, hematuria and mictional pain. None had obstructive pathology of urethra nor neurogenic bladder disease. 26/33 were studied with complex urodynamics (intravesical pressure, intraabdominal pressure, perineal EMG, flow rate and simultaneous radioscopies). 20/26 had unstable bladder, expressed by uninhibited contractions (UIC). The distribution of the BD was: Single 15/33, Multiple 18/33, Bladder ceiling 4/33, Trigone 15/33, Bladder 10/33, Paraureterals 4/33. Existed preop. 26/33, appeared postop 7/33 (with UIC 7/7), Resected BD 2, Relapse postop 2/2 (with UIC 2/2). Significant pathology associated to div: Chronic Cystitis 13/33, UIC 20/26, Bladder Sphincter Disinergia 8/26, UI 24/33, VUR 26/33, Ureteroneocystostomias 12, Diverticulectomies 2, Postop Div. 7/33. From 26 VUR (bilateral 7/26, left 10/26, right 9/26) 15/26 had UIC. We believe that the frequent unstable bladder is an important factor in the genesis of BD. In these patients, UIC must be searched. If they exist, the possibility of relapsing is important. In other bladder surgeries it is a possible postop complication. 6/26 did not have UIC at the time of urodynamic evaluation, but they could have had the diverticulae years before the study.

EFFECT OF ATROPINE ON THE RESPONSE OF NEWBORN LAMBS TO MASSIVE HEMORRHAGE. A. Sola, M. Schlueter, R.H. Phibbs. Department of Pediatrics and Cardiovascular Research Institute, University of California, San Francisco.

6 We studied 30 spontaneously breathing newborn lambs who were bled to 50% their blood volume (measured with CsCl labeled red blood cells) in 30 min. time. In each case heart rate, blood pressure, pH, blood gases, hematocrit and colloid oncotic pressure were determined. Cardiac output (CO) and organ blood flow (Q) were determined by microsphere method. No volume was re-infused. In 19 lambs (Group I) there was severe hypotension and bradycardia at 20 min. during hemorrhage (HEM). Myocardial blood flow (QM) changed with changes in blood pressure, falling to 40% of baseline values. Eight lambs survived (Pediat. Res. 17:70-76, 83). In 6 lambs, atropine (0.2mg/Kg) was administered twice before and 3 times during HEM, every 10 min. None developed bradycardia. Decreases in blood pressure and CO were similar to those observed in Group I. QM only decreased by 7%. Cerebral Q remained stable as in survivors from Group I. All 6 lambs survived. In 5 lambs, atropine was only administered during HEM, when bradycardia and hypotension had already developed. Brady could not be reverted by repeating atropine or by increasing doses (0.4mg/Kg). Two lambs survived.

We conclude that unanesthetized newborn lambs develop bradycardia during HEM. Bradycardia can be prevented by administering atropine before and during HEM. This treatment modifies physiologic responses especially QM. However, atropine cannot revert bradycardia once it has developed. This suggests that there are probably other issues involved in HEM induced bradycardia, other than vagal stimulation.

AN ATTEMPT TO GET THE VERY LBW INFANTS CLOSER TO THE PARENTS. M.C. Reinoso, S.I. Escorido, J.A. Jacob, M.C. Osio, L.M. Prudent, N.E. Vain. Neonatal Intensive Care Unit (NICU) and Department of Medical Electronics, Sanatorio Güemes, NICU Sanatorio Otanendi - Miróli, Buenos Aires, Argentina.

7 Very LBW infants (<1500g) are nursed in incubators (I) or radiant warmers. Usually parents are allowed to visit and touch their infant establishing a limited contact. We hypothesized that it is not of risk to remove the infants from the I and to let their parents hold them between arms. We studied 15 neonates birthweights 900 to 1400g, (1124+174g) clinically stable and not on mechanical ventilation between ages 7 and 44 days (17.4+12). Infants were dressed in the I and 4 were receiving intravenous fluids (IV) Heart rate, transcutaneous pO<sub>2</sub>, O<sub>2</sub> Saturation (Pulse Oxymetry); skin (S), rectal and environmental temperature were continuously recorded. Axillary T was measured every 5 minutes. We studied three 20 min. periods: 1) Control in the I; 2) In mother's arms covered by a regular sheet and blanket and with no additional heat; 3) Control in the I. Results: There were no complications in any patient. None of the infants had a decrease in T during period 2. On the contrary T increased by 0.4°C, axillary 2, Rectal 3, and cutaneous 12 patients. Oxygenation was stable (Basal + 20%) in 12 infants. 3 had a drop in TcPO<sub>2</sub> > 20% which was brief, recovered spontaneously and had no effect on other clinical variables. In all cases parents showed a favorable attitude towards repeating the experience. We conclude that stable very LBW infants can be temporarily removed from the I to be held by their parents, providing monitoring available at any NICU with no evident risks. This early contact may enhance parent-infant relationships.

AFFECTING FACTORS TO CATCH UP GROWTH IN VERY LOW BIRTH WEIGHT (VLEW) INFANTS DETECTED THROUGH A MATHEMATICAL MODEL. C.A. Pustianana, J.M. Ceriani Cernadas. Division Neonatología. Departamento de Pediatría. Hospital Italiano. Buenos Aires, Argentina.

8 Rate of postnatal "catch-up" growth was examined applying a mathematical model, which allowed to evaluate catch up growth in length (L), weight (W) and cephalic circumferences (CC). In a group of 120 VLEW infants born from 1980-86, 82 were selected for the study meeting the following criteria: no intrauterine growth retardation, prenatal infection and major malformation. Mean birth weight (BW) and gestational age (GA) were 1217+193 and 29.1+1.6 weeks, respectively. Apgar scores at 1st and 5th min. were 6.9+3 and 8.8+2.0. The independent variables were BW, GA, socioeconomic status, perinatal and neonatal morbidity, and age taken at the time when calories intake reached 100cal/Kg/day and BW had been recovered. The dependent variables were catch up growth in W, L and CC. The stepwise regression analysis showed variables which correlated with catch up growth were: neonatal morbidity, age which birth weight was recovered and age at the time to reach 100cal/Kg/day. They were also dependent among themselves. The regression coefficient were  $r = .72$  ( $p < .0001$ ),  $r = .79$  ( $p < .0001$ ),  $r = .63$  ( $p < .01$ ) for catch up growth for W, L and CC, respectively. The data showed that failure to catch up growth was related to the poor caloric intake received by this group secondary to morbidity. Better management of nutrition may improve catch up growth. This analysis allows earlier identification of infants with delayed catch up growth and the responsible variables. The three above variables may be used to predict the risk of no catch up growth in W and L in VLEW infants.

CONGENITAL CHAGAS. C. Di Martino, L. Diaz de Be-  
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raguay.

9 Chagas' is one the most common endemic diseases in Latin America. Between 10-15% of Latin American population is infested.

The purpose of the workup of pregnant patients with Chagas diseases is twofold. First, determine the degree of patient's compromise and second, to establish if there are any effects on the fetus.

One hundred and twenty three patients with pregnancies between 26 and 37 weeks were studied at Hospital de la Cruz Roja Paraguaya. They all had blood test (ELISA, IFI, direct parasitemia, Placental Lactogen and Estriol); Chest X rays, Obstetric ultrasound, amniotic fluid studies (maturity, search for the presence of parasites, ELISA, linfocitosis); Fetal monitoring and anatomopathologic study of placenta.

The newborns of the 7 patients with positive ELISA Test for Chagas were studied. They had ELISA IFI, direct parasites search, immunoblotting, EKG, Chest X rays.

Absence of congenital diseases was shown in all them. During follow up, ranging from 3 - 6 months, all these newborn remained free of the disease.

Further studies are required to determine the mechanism of transmission. This should be priority for health institution in Latin America.

WATER OVERLOAD TEST FOR DETECTION OF DIABETES NEPHRO-  
PATHY, RELATION BETWEEN GLOMERULAR FILTRATION RATE (GFR)  
MICROALBUMINURIA (uALB), KALLIKREIN (KAL) AND GLUCAGON.  
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10 After overnight fasting, a water overload test (470ml/m<sup>2</sup> for 2.5 hours) was done in 11 normal children (N) (7males, 4females) and 22 insulin-dependent diabetic children (D) (9males, 13females) ranging from 1 to 14 years of diabetes. Insulin was not administered. During the test, urine was collected every 30min. for uALB determination. GFR was measured by DTPA<sup>99mTc</sup> technique. Radioimmunoassays for uALB and glucagon determination. KAL and PRE-KAL steerase activity was measured by substrate S2266 hydrolysis. Blood glucose concentration was 75.0+5.0mg% in N and 197.0+21.0mg% in D. At 150 min., uALB in N, was 3.84+0.87µg/min/1.73m<sup>2</sup>. The mean plus 3 D.S. was considered as the maximal normal valor: 12.00µg/min/1.73m<sup>2</sup>. In 13 D, uALB was 4.60+0.83µg/min/1.73m<sup>2</sup> and was considered not having nephropathy. In 6 D, uALB was: 38.00+15.70µg/min/1.73m<sup>2</sup> and considered as an expression of nephropathy. Urine collection of 24 hours did not show any difference in uALB between N and D. GFR was 101.0+8.3ml/min/1.73m<sup>2</sup> in N and 144.0+8.0 in D ( $p < 0.005$ ). KAL and PRE-KAL were also higher in D than in N but no difference was seen in glucagon.

As conclusion: 1) the water load test is the most sensitive mean for detecting nephropathy in D patients; 2) no correlation was seen between uALB, KAL, PRE-KAL and GFR.