

25 EXTRARENAL LESIONS IN THE UREMIC HAEMOLYTIC SYNDROME. Gallo G.E., Mendilaharsu F., Delgado N. y Sojo E., Hospital de Niños, Buenos Aires, ARGENTINA

Improved handling of the uremic haemolytic syndrome in renal failure brings forth the need to understand the extrarenal lesions (ERL). Few publications refer to them. Clinical data and autopsy material of 61 children dead with the uremic haemolytic syndrome (UHS) and less of 2 months of evolution were reviewed. 35 of them had ERL due to UHS with microthrombosis (MT). They were more frequent in those dying in the first 10 days of the acute stage: 27/34. Three of the 8 patients that had ERL after 10 days had repeated bouts of haemolysis and intravascular coagulation. Organs more frequently affected were: colon: 22 patients with MT, and also widespread necrosis in most of them; heart: 12 with MT and 5 of them with myocardial necrosis; brain: of 27 brains examined 9 had MT (mainly in the choroid plexuses), the others had edema, haemorrhages, and spongiosis. Other organs with Mt were adrenals, pancreas, small bowel, etc.

We conclude that UHS is a generalized disease, and that ERL are frequent and important in the acute stage. They are responsible for many of the severe acute clinical signs, and they are also the immediate cause of death in many patients or of severe sequelae in others.

26 MICROCALCIFICATION OF THE INTERNAL ELASTIC LAMINA AND PULSATIL BLOOD FLOW. Becu L. and Grunfeld B., Hosp. de Niños, Gallo 1330, Buenos Aires, ARGENT.

It has been shown that a change in velocity and modulation of the pulse wave alters the functional behaviour of organs perfused in this way even if the volume of flow is normal. The extreme example is continuous flow in an experimental model. Such changes are very difficult to measure in humans. However, it has also been shown that there are changes in the impedance of the arterial wall with alterations of the viscoelastic properties of its cellular structure. In the course of a study on the arteries of children hypertensive because of various reasons special stains showed microcalcifications restricted to the internal elastic lamina in muscular arteries. These calcifications were very often segmental in nature, but on occasion involved the entire circumference of the vessel lumen indicating the presence on non-pulsatile flow. The post-mortem fracture of the calcified segment produced by the spastic contraction of the artery demonstrates the rigid nature of the calcified segment in-vivo. The very presence of a segment of calcified and non-elastic limiting membrane implies that the systolic and diastolic movements of the media were not normal and circumferential, and produce or are the consequence of alterations of the pulse wave. Therefore it is necessary to search for this morphologic indicator of pathologic circulatory dynamics in all cases of hypertension in children, specially in those considered to be "essential" in nature.

27 CARDIOVASCULAR RESPONSES OF THE INTRAUTERINE GROWTH RETARDED FETUS (IUGR) TO ACUTE HIPOXEMIA. LLANOS, A.J.; GREEN, J.R.; CREASY, R.K. Dept. Ob-Gyn, and Repro.Sci. and CVRI, Univ. of Calif. San Francisco USA

IUGR fetal lambs with chronic hypoxemia are particularly susceptible to additional acute stress. We therefore studied the cardiovascular responses of 6 IUGR fetuses to superimposed acute hypoxemia. IUGR was produced by daily embolization of the utero placental vascular bed. Additional acute fetal hypoxemia (PaO₂ 11 torr) was produced by the ewe breathing a 10% O₂ and nitrogen gas mixture. Fetal cardiac output (CO) and its distribution was measured using radioactive microspheres. Basal umbilical blood flow (Q) was reduced in the IUGR fetuses (132 ± 18 ml · min⁻¹ · kg⁻¹; mean ± SE), and kidneys, and adrenal Q (ml x min⁻¹ x 100 g⁻¹) elevated. During the acute hypoxemic episode, Q increased to myocardium (478 ± 209 to 732 ± 248) and to the brain (238 ± 79 to 295 ± 69) with a trend to further increase in adrenal blood flow (588 ± 88 to 1001 ± 329). These increased organ Q changes were similar to those occurring in normal fetuses but reached greater absolute levels. There was also a decrease in Q to the gut, kidneys and carcass, but no change in CO nor the depressed umbilical Q. The Q to the carcass in the IUGR fetus during acute hypoxemia is greater than the Q observed in the normal fetus. The inability of the IUGR fetus to increase their abnormally low umbilical Q, plus its inability to reduce the carcass Q, as the normal fetus does, may account for the increased mortality rate observed in the IUGR fetus under acute hypoxemia.

28 Radiorenogram (RRG) as screening for urologic malformation in patients with urinary tract infection (UTI) Drs. BOTTINI, E.; BARENGOLS, A.; GULLIGAN, D.; SCHERE, D.; RUTTY, A.-Unidad de Nefrología y Sección Radioisotopos Htal de Niños R. Gutierrez, Gallo 1330, Baires 1440, Argentina.

To evaluate the usefulness of the RRG as screening we analyzed retrospectively a population of 67 patients with known radiologic alterations that came to us as UTI. Methods: We utilized an α nuclear equipment with fixed detectors of I¹³¹, intravenous injection of 20 μ Cu of ortoiodohypurate of Na I 131 (CNEA) in a volume less than 0.2 ml were administered. Results: 67 patients were divided in 133 renal units. 53 had normal intravenous pyelogram (NIVP), with 44 nor. RRG (84%) of this 19 presented vesicoureteral reflux (VUR) (43%). 80 abnormal pyelogram showed 18 nor. RRG (22.5%) of which 13 had chronic pyelonephritis (CPN). The overall 67 patient had 20 nor RRG showing in the Rx study: 5 unilateral CPN, 2 bilateral CPN, 10 VUR with nor. IVP, 2 hydronephrosis, and 1 slight pyeloureteral stenosis.

This data may suggest that RRG is not a reliable method of screening of consequences and aggravants in patients with UTI.

29 DOWN SYNDROME AND MATERNAL AGE IN A CHILEAN POPULATION, 1973-1977. Ch. Seebach, P. Fuenzalida, S. Fuentes & Y. Lacassie. Laboratory of Genetics, Faculty of Medicine and Newborn Unit, Hospital E. Deformes, Valparaíso, and Unit of Genetics, INTA, University of Chile, Santiago.

In a prospective study of 23,822 newborns (NB) at the Hospital E. Deformes, Valparaíso, between 1/1/73 and 12/31/77, 31 cases (15 males and 16 females) were diagnosed as Down Syndrome (DS). The incidence was 1/768 NB. Average maternal age in DS was 29.39 years (s.d. 9.93) while in mothers with normal offspring it was 24.67 years (s.d. 6.36). Distribution and incidence related to maternal age are shown in table:

Maternal age	Total live-births	D.S.	Incidence
- 14	127	0.5 %	1/127
15 - 19	5411	22.7 %	6/1902
20 - 24	8100	34.0 %	6/1350
25 - 29	4979	20.9 %	3/1660
30 - 34	3043	12.8 %	2/1521
35 - 39	1548	6.5 %	5/1310
40 - 44	560	2.3 %	7/180
45 -	54	0.2 %	1/54

The relationship between advanced maternal age and DS is well known. There is a strikingly increased risk in very young mothers. Despite the small size of the sample, this study permits the deviance of risk tables with short age intervals, useful in genetic counseling.

30 Serum, Zn, Cu and Mg levels in school-age Chileans M. Araya, J. I. Egaña, J. Espinoza, O. Brunser. INTA-Chile

Serum Zn, Cu and Mg deficiencies have characteristic pathologic findings. There is no information on the nutritional status of these elements in the Chilean population. Results of a preliminary study on 120 apparently healthy school-age children, aged 6-17 years, from the low socioeconomic level are reported. Wt and Ht were below the 5th centile in 20 and 27% of cases. No signs suggestive of deficiencies of the studied elements were observed.

	6-7 years N=20	8-9 y. N=21	10-11 y. N=20	12-13 y. N=21	14-15y. N=20	16-17y. N=18
Zn* x±SD	131.6±31	129.1±24	111.1±24	116.4±26	108.3±28	90.3±12
Range	80-210	73-218	86-175	79-147	66-174	74-112
Cu* x±SD	141.9±26	124.8±22	143.1±50	130 ± 52	111.8±22	95.4±16
Range	107-210	99-186	80-260	76-230	76-157	56-124
Mg** x±SD	24±2.5	24.7±2.4	24.1±2.3	25.1±1.8	22.9± 3	23.5±2.5
Range	17.0-27.9	19.4-28.4	16-25.6	21.8-29.2	16-27.2	16.5-28

* = μ g/dl ** = Mg/l.
S., Zn, Cu and Mg values were below 1SD from the mean in 15%, 14.2% and 11.6%. In 35.8% of children S., Zn was below 100 μ g/dl. Cases with low Wt or Ht did not show the lowest serum levels observed. These results are in the lowest range of normality. They suggest that there may be some Zn, Cu or Mg deficiency in the school-age population in Chile. However, this is not as severe as that described in other countries. Supported by Nutrition Foundation.