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SODIUM TRANSPORT SYSTEMS IN RED CELL MEMBRANES AND SALT-RESTRICTED DIET. M.Gimenez, R.Simsolo, B.Grunfeld. Hospital de Niños Ricardo Gutiérrez and Hospital Italiano, Buenos Aires, Argentina.

We have previously reported changes in the sodium transport systems in red cell membranes (STS) of essential hypertensive patients (EH) and in normotensive offspring os essential hypertensive parents (N-EH).

The purpose of this study was to evaluate the effects of a salt-restricted diet on STS in the above groups. Na:K pump activity (P), Na:K cotransport (Co), Na:Na countertransport (CTT), Na leak (L) and red blood cell Na content (Nai) were measured in 19 EH age x:29y and in 14 N-EH age x: 29y and in 14 N-EH x: 13y before and after 14 days on a salt restrictive diet.

Both groups showed a significant decrease of Nai ($p<0.001$) and a significant increase of Na:K pump activity and Na:K cotransport ($p<0.001$). A significant correlation ($r:0.53$ $p<0.01$) was found between the drop in Nai and the decrease in diastolic blood pressure. Sodium restricted diet had no effects on either CTT or leak.

Thus, sodium restriction restored Na:K pump activity and Na:K cotransport, to values comparable to control non hypertensive patients population.

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PSPI: PEDIATRIC SURVIVAL PREDICTION INDEX. A.Saporiti, M. Althabe, L. Landry, E. Gabai, E.Carmuega, J.Mendilaharzu. Hospital de Pediatria S.A.M.I.C., Pichincha 1850. Buenos Aires, Argentina.

Intensive care units have an increased mortality rate. Prediction of patient risks on admittance may be of interest not only for prognostic purposes but also as an index of unit efficiency. Four hundred and twenty five patients admitted to our intensive care unit were studied. Based upon the P.S.I. a maximum of 29 variables were recorded during the first 24 hours. Among them only 13 were significantly associated ($p<0.05$) with mortality (BP, HR, RR, pH, pCO2, PaO2/FiO2, WBC, Platelets, KPTT-Quick, Bilirrubine, ALT-AST, Glu, Glasgow score). An index number was assigned to each variable according to its mortality relative risk.

< 1 year	SBP 65-55 (3)	50-40 (30)	< 40 (80)
	HR 90-75 (5)	74-50 (13)	< 50 (70)
	RR 61-90 (2)	> 90 (4)	
> 1 year	SBP 75-65 (3)	64-50 (30)	< 50 (80)
	HR 80-60 (5)	59-40 (13)	< 40 (70)
	RR 51-70 (2)	> 70 (4)	

all ages			
pH 7,2-7,1 (5)	< 7,1 (15)	> 7,65 (10)	PaO2/FiO2 300-200 (4) < 200(7)
pCO2 51-65 (3)	> 65 (5)		KPTT-Quick ABNORMAL(7)
WBC < 3000 (4)	>40000(11)		AST-ALT > 5 times (5)
Plat.	<20000(10)		Gluc. < 40 (7)
Bi. >' 3,5 (4)			Glasgow < 5 (45)

The Pediatric Survival Prediction Index is the result of summing up the index obtained for the variables. The variables were obtained in each case according to clinical criterium.

The mortality risk for each interval is: PSPI=% Mortality 0=2% 1-5=4% 6-10=5% 11-15=12% 16-20=26% 21-25=50% 26-50=57% 51-100=78% 101 or more=89%.

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VACCINATION COVERAGE IN PRESCHOOL CHILDREN OF BUENOS AIRES. A.S.Gentile, D.Rodriguez, M.Flores, A.C.Manterola. Hospital de Niños de Buenos Aires, Argentina.

Vaccination coverage was studied in August, 1988 on five years old preschool children from county school of Buenos Aires. 768 children were selected by randomization (unit=school districts) and data was colected by preschool teachers previously instructed. The following data were registered on each child: age, sex, nº of dosis of DTP, Sabin, BCG and Measles vaccine; level of instruction, age and occupation of the mother (or guardian); number of siblings; occupation and work stability of father and condition of housing. In addition, school district was taken into account (it was classified according to social status); school shift and parent's opinion about the importance of vaccination.

72% of children had a complete immunization, 90% coverage for BCG, 85.2% for Sabin, 84.5% for DTP and 81.9% for Measles. The following variables were considered as risk factors: a) offspring of analphabetic or with uncompleted primary instruction mother; b) three or more siblings in the family group; c) doormen's children living in a "villa" or hotel; d) children of workmen or family workmen; e) children attending school on a eight hour schedule. These were also risk factor for Sabin, DTP and Measles vaccine but not for BCG. There was no relation between immunization and mother age, mothers working time, fathers work stability or school district social status. 74.9% of families considered that vaccines prevent diseases; the 7.2% considered that they attenuate them; 3.7% considered that they were obligated to vaccinate the children and 7.9% look up to the vaccine as a health vehicule with magical feelings. These differences do not have influence over the coverage. This data allow to review the immunization.program for preschool children of Buenos Aires in order to achive a better coverage.

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RETROGRADE INJECTION IN THE I.V. TUBING. IS IT APPROPIATE FOR THE I.V. ADMINISTRATION OF AMIKACIN (AK)? N.E. Vain, S.I.Escoredo, G.Michaelian, B.Sarachian. Departments of Neonatology and Infectious Diseases, Sanatorio Güemes and Centro de Estudios Infectológicos, Buenos Aires, Argentina.

There are 3 ways currently in use for the administration of AK to newborns (NB): Intramuscular (IM), intravenous in 20-30 minutes with infusion pump (IV) and a 3rd. way: retrograde injection of the drug in the IV tubing (RET) which we have seen in use because of insufficient number of infusion pumps. To compare these 3 ways we randomized prospectively between 11/87 and 07/88 NB with > 1.000grs. B Wt., normal renal function and requiring AK at standard dosages. Serum peak (P) and trough (T) concentrations between the 4th. and 8th. dose were measured. Results:

	IM n=12	IV n=10	RET n=9	
Gestational Age(mo)	35.3 ± 4.2	35.1 ± 3.2	36.1 ± 4	NS
Birth Weight (g)	2388 ± 949	2273 ± 737	2394 ± 1093	NS
P	14 ± 8.8	23.8 ± 14.2	21.2 ± 11	NS
T	4.5 ± 3.7	5.8 ± 4.3	5.7 ± 2.6	NS
Therapeutic P.	6	6	6	NS
Toxic P.	-	2	1	NS

In spite of somewhat lower P for IM there were no significant differences for P and T with the 3 ways (ANOVA) Frequences of therapeutic levels were similar for the 3 ways. There was no relationship between IV RATE and serum P with RET infusions.

CONCLUSIONS: 1) Frequency of non therapeutic concentrations of AK confirms the need to monitor serum levels. 2) The RET infusion method is effective for AK administration, providing an attractive alternative for Hospital with insufficient number of infusion pumps. 3) If RET demonstrated as adequate for slow IV infusion for other drugs, this method may greatly decrease nurses work load. (Spons by CIBA-GEIGY).

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SUPER GLUTAMINE ORAL REHYDRATION SOLUTION. ITS EFFECT ON SODIUM AND WATER ABSORPTION IN PERFUSED RAT GUT. M.E.Torres Agero, R.Uicich, E.Carmuega, A.M.O'Donnell. CESNI - Montevideo, 979 P5 (1019) - Buenos Aires - Argentina-Hospital de Pediatria "Prof. Juan P. Garraham".

In order to increase sodium and water absorption from oral rehydration solutions new formulations with different organic solutes, electrolytes and aminoacids have been proposed. So far, there are no obvious advantages of these formulation over the ORS-WHO.

We studied water and electrolyte absorption with a continuous perfusion model in rat gut (Wistar, 28 days, weight: 933.7g) comparing WHO solution (Na: 90mEq/ℓ; K: 20mEq/ℓ; Glucose: 111mM; CO3HNa: 30mM) with a glutamine based solution (Na: 90mEq/ℓ; K: 20mEq/ℓ; Glutamine: 110mM; CO3HNa: 30mM). The proximal end of the canula was inserted immediately distal to Treitz (43 ± 9.4cm). The first 60' perfusion volume was discarded to attain steady-state equilibration (0.35mℓ/'). Perfusates were collected in 4 periods of 15' (variation between periods less than 10%) Net absorption of water and electrolytes was estimated with PEG4000. The results, average of the 4 periods, are shown in the table:

	N	Water Abs µℓ/'/cm	Na Abs µmoℓ/'/cm	K Abs µmoℓ/'/cm	CO3HNa Abs mmoℓ/ℓ	Glucose Abs mmoℓ/ℓ	Glutamine Abs mmoℓ/ℓ
WHO	9	0.870.54*	0.060.05*	0.030.01	0.170.06	0.190.08	-
Glutamine	5	1.110.42	0.130.05	0.050.02	0.110.02	-	0.160.10

*p<0.05

The replacement of glucose by glutamine in oral rehydration solution increased significantly net water and sodium absorption in the experimental condition described. Glutamine effect could be different from other organic solutes (glucose, glicine, dipeptides, etc). The elucidation of this mechanism and its potential clinical application is subject of present on going research.

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SELF-MANAGEMENT IN CHILDREN WITH CHRONIC DISORDERS (ASTHMA, EPILEPSY, DIABETES): A RANDOMIZED FIELD TRIAL. J.Tieffenberg, C.Olrog, R.Molini, A.Berbeglia. ACINDES, Argentina. A.Binelli, G.Ortellao, L.Trifone (Neurology: J.Grippo, Respiratory: C.Maccri, Nutrition: H.Raizman, Allergy: M.Cohen) - Hospital Ricardo Gutiérrez, Buenos Aires, Argentina.

Self-care and Self-help groups are promoted as appropriate for achieving improved outcome in Chronic Health Problem's management. We have developed a Training Model for pre-school and school-age children and their families, using Play and Role-Reversal techniques based on Self-Sufficiency and Self-Reliance. This model promotes a leading role for the children in the management of his own problem (self-management), with the Health Care Team's guidance, and the family learning to act facilitating the process. The goal is to achieve significant improvements in the child's functioning and quality of life. The program consisted in five weekly sessions held in a school, coordinated specially trained teachers. Children and parents met simultaneously in separate groups, joining at the end. They both were trained in identifying body signals, control of their environment, treatment's management, decisior-making and Self-Reliance habits. To assess the impact of the Program, a quasi-experimental, randomized Field Trial model was developed with 420 (4-12 years old) patients of the Children's Hospital R. Gutiérrez (Respiratory, Nutrition and Neurology Departments). Of these, 212 were assigned randomly to Experimental (128, "Groups") or Follow-up only (94, "Controls"). Preliminary results suggested a significant impact of the Program in attitudes and behaviours of the study children and their parents. In moderate to severe asthmatics, the children's severity according to the parents changed significantly ($p=.0005$). Unnecessary use of Hospital services also fell, as well as School Absenteeism (Exp: 11.3 to 6.9%; Cont: 9.2 to 11.6%). Parents showed more knowledge and less anxiety after the Program (Exp: Knowledge before 35%, after 61%; Cont: 33 and 29%) (Fear of child's death: Exp: Before 21.4% after 4.9%; Cont: 53.3% and 41.9%). There is also decreased sense of altered family dynamic, and increased (30 to 50% more) parental recognition of the child's protagonism. The Health Locus of Control changed also significantly in Experimental children ($p=0.0015$; Cont: $p=0.10$), which explains many of the positive changes operated. Preliminary results in Epilepsy and Diabetes showed a similar tendency.