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TRANSCUTANEOUS OXYGEN MONITORING IN SICK NEWBORN INFANTS. Vain, N. Ioma Linda. Univ. Medical Center, Loma Linda, California. USA.

Thirty seven newborn infants with respiratory distress were cared for using simultaneously conventional monitoring, arterial catheters and transcutaneous oxygen monitoring(Tcp02).The correlation between tcpO2 and arterial pO2 was excellent in all cases(R=0.96). The tcpO2 was always faster and more efficient than intermitent arterial sampling in predicting the requirements of oxygen, continuous positive pressure(CPAP) and assisted ventilation. Heelsticks and peripheral arterial puncture usually induced crying, making the results less reliable. In 51/ 97 episodes of apnea the nurse was first alerted by the alarm of the tcpO2 monitor. An abnormal tcpO2 was the first warning sign in all cases of complications including 3 infants with pneumothorax, 6 episodes of displacement of the endotracheal tube to the right bronchus, 11 instances of displacement of the nasal prongs, and I case of iatrogenic hyperoxia. While serious complications of arterial puncture and catheterization are not exceptional, the tcpO2 electrode only produced small hyperemic areas which lasted from 8 to 40 hours in this series of infants. TcpO2 monitoring provides reliable and continuous data with a very rapid response to changes in the infants oxygenation, and it is therefore an excellent technique for management of sick neonates.

90 EFFECT OF SOCIUM SALICYLATE ON INSULIN SECRETION: STUDIES ON THE MECHANISM OF ACTION. Basabe J.C., Bruno L., Cortese J., Fernandez M.E., Astolfi E.Fund FLIP & Toxicologia.Htal.de Pediatria"P.de Elizalde"Bs.As.Argentina.

The curve that depicts the inter-relation of different glucose concentrations(5.5 to 27.5mM) to the insulin response is shifted to the left by the addition of sodium salicylate(1.87mM) when incubation of pancreas slices are used. Phentolamine but not sodium salicylate, overcomes the inhibitory effect of epinephine on insulin secretion induced by glucose. The highest insulin response is obtained by theophylline or pentoxyfilline at 10mM concentrations (in the presence of glucose llmM). When sodium salicylate is present in the incubation medium, only 5 mM theophylline or pentosyfine plus 11 mM glucose achives the highest insulin response. Salicylate lower the free tubulin pool an action that is impaired by imidazole; however imidazole does not impaire the effect of A23187. The results shown suggest: a) sodium salicylate increases beta cell sensitivity to glucose, b) adrenergic tone modifications are not related to the salicylate mechanism of action c) an increment in the cAMP production seems to be the main way by which salicilate increases insulin secretion, d) the effect of salicylate on the microtubular system are indirect and mediated through an increment of the pancreatic cAMP.

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SALICYLATE INTOXICATION AND INSULIN SECRETION: "IN VIVO" AND "IN VITRO" STUDIES. Basabe J.C., Bruno I Alvarez E., Fernandez M.E., Astolfi E. Fundacion FLIP and Unidad de Toxicologia.Htal. de Pediatria "P.de Elizal-

de". Buenos Aires. Argentina.

Salicylates intoxication induces a lower blood glucose level than control in rats(74.80+6 vs 130.07+5.4 p 0.01). Slices from pancreas of intoxicated rats, secretes more insulin than controls when incubated in the presence of glucose (1.27±0.08vs 0.79+0.03, mug/mg w.t./30min:p 0.001). Sodium salicylate increase both phases of secretion induced by glucose (5.5 to 16.5mM) in the isolated perfused rat pancreas. The increment is not observed when 27.5 mM glucose in utilized. Puromycin,80 ug/ml has no effect on the action of sodium salicylate on the insulin secreted by glucose 5.5 and 16.5 mM. The results shown suggest that: a) sodium salicylate increases both phases of insulin secretion induced by glucose "in vitro" and "in vivo"; b) both, salicylate and glucose, cause insulin secretion by acting on the same compartment; c) the increased sensitivity of the beta cell to glucose, induced by salicylate, is unrelated to insulin synthesis; d) the effect of sodium salicilate cn insulin secretion induced by glucose, could explain, at least in part, the hypoglycemia observed in the salicylate intoxication.

CEREAL BLEND AS SUPPLEMENT TO BREAST FEEDING. * Gonza-92 lez S., **O'Donell A. and **Abeya E. *Research Count cil of Prov. de Buenos Aires. **Center for Studies on Infant Nutrition. Buenos Aires. Argentina. A growth study was performed on 17 infants aged 2-3 months fed with fixed amounts of human milk(HM), from 400 to 600ml. per day and supplemented, three times a day, with cereal blends, calculated to fulfill essential aminoacids(EAA), total protein and energy advisable intakes. The base of the calculations uses the relative excess of EAA in HM in relation to the infant's EAA requirements in order to supplement vagetable proteins quality. Energy deficits were covered with vegetable oil and/or sacharose. After the second day of being supplemented with cereal gruels, all the infants ingested the advisable protein and energy intakes. The growth average was 150% in relation to what was expected for the weight (p $\langle 0.01 \rangle$, except in three infants who were supplemented with a high fibre content cereal. Cereal gruels, fed together with fixed intakes of 400ml of HM, provided a good catch-up after severe infectious disease episodes. Therefore, cereal blends with vegetable oil and sacharose as supplements to HM are promising alternatives to diminish the risks of bottle-feeding in poor sanitary enviroments, without interfering with breast-feeding.