

Professor Laron comments:

We thank Dr. Grant for his remarks. It is true that with advancing age there is an increase in the insulin response which is not sex dependent. We established normal centiles for the oral glucose tolerance test before and during puberty (Josefsberg *et al.*, 1976). The insulin response of many children with constitutional short stature is below the 10th centile for age group, which comprises also their skeletal age.

We have been interested for many years in the relation between insulin and growth (Laron *et al.*, 1972). Our present view is that on one hand lean body mass is related to the low insulin output which affects, but is not the primary cause of, the growth retardation (which in many instances is familial).

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Hypernatraemia and milk formulas

Sir,

The word 'sodium' is an emotional one for paediatricians, reinforced no doubt by the recent article by Chambers and Steel (1975). Unfortunately, hypernatraemia associated with diarrhoea and ingestion of concentrated cow's milk is incorrectly blamed on the sodium content rather than on the obligatory renal solute, intestinal lactose, and caloric loads of these milks. One consequence of this unjust finger of blame is that an oral glucose electrolyte solution (sodium content 90

mEq/l, glucose 111 mmol/l, renal solute load 220 mOsm/l), which has proved safe and excellent for most children with acute diarrhoea under varying circumstances (Lancet, 1975), is viewed with alarm (Aballi, 1975) though unwarranted (Hirschhorn, 1975).

Concentrated milks can contribute to hypernatraemia in the following ways. (a) Lactose intolerance during diarrhoea with marked loss of water in the stools. (b) Decreased intake and increased evaporative loss due to excess calories. (c) Increased extraintestinal loss of water caused by fever and by acidemia created by lactose intolerance. (d) Reduced renal concentrating capacity because of volume contraction due to diarrhoea compounds the difficulty, especially when excretion of the protein products of milk is still required.

The epidemic of hypernatraemia beginning in the 1950s and continuing still may be related to 'the most commonly prescribed electrolyte-containing fluid for infants with diarrhoea... milk, usually boiled and skimmed' (DeYoung and Diamond, 1960).

If infant formula manufacturers were put out of business by a return to breast feeding, there would be fewer cases of hypernatraemia, fewer serious cases of diarrhoea, and less marasmic malnutrition among very poor children. The paper by Chambers and Steel excellently reinforces this view.

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