Serum albumin concentrations and oedema in the newborn

Sir,

The paper by Cartlidge and Rutter contains much valuable information on albumin concentrations and oedema in the preterm neonate. Early (<7 days) oedema does not usually cause undue concern if attention is focused on fluid and electrolyte balance as part of the overall care at that stage.

It is the occurrence of later oedema in the relatively well, rapidly growing preterm baby that is the more interesting physiological (?) phenomenon, even if it is the less worrying clinically. The authors reported a significant relation between albumin concentration and oedema, but with a poor correlation. No relation between nutritional state and albumin concentrations existed at 3 weeks of age. Which measures of nutritional state were used to support this statement?

It is tempting to find similarities between this late neonatal oedema and some forms of nutritional oedema. The role of protein deficiency and secondary hypoalbuminaemia as the principal cause of oedema in kwashiorkor has been questioned. Some malnourished children develop oedema during nutritional recovery at a time when their albumin concentrations are rising.

If these phenomena are paralleled in preterm babies oedema and hypoalbuminaemia in the late neonatal period may reflect nutritional inadequacies. Dismissal of the nutritional state, particularly if assessed by anthropometry alone, may be premature. Thus the excellent data presented should encourage us to look for nutritional problems rather than dismissing them.

Eventually, only meticulous balance studies on energy, protein, and ‘accessory nutrients’ may lead to an understanding of which, if any, of these dietary factors is deficient in the growing baby with oedema. It would be interesting to know whether Drs Cartlidge and Rutter found hypoalbuminaemia and oedema (independently) to be related to previous nutrition in these babies. Did the type of milk used or the parenteral route of feeding have any influence on the incidence of these problems?

Michael Watkinson
Marston Green Hospital, Birmingham B37 7HS