Immediate effects of albumin infusion in ill premature neonates

Commentary

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Most infants born before 36 weeks' gestation have a serum albumin concentration below 30 g/l; this is a concentration which in a child or adult would be classed as hypoalbuminaemia.1 Most of these infants have varying degrees of oedema too, but there is poor correlation between serum albumin concentration and the amount of oedema, and neither relate well to the presence or absence of respiratory disease. The implication is that hypoalbuminaemia is normal for the preterm infant, perhaps because the low systemic blood pressure (and therefore the capillary hydrostatic pressure) makes a high colloid osmotic pressure unnecessary. A common finding, however, in a preterm infant is not necessarily normal.

This interesting study by Greenough and her colleagues seems to suggest that hypoalbuminaemia of prematurity is abnormal as albumin infusion is associated with a diuresis, weight loss, and possible reduction of oedema. These are the findings one would expect from the infusion of albumin into a child with the nephrotic syndrome. Disappointingly though, the study lacks a control group of infants with respiratory distress who did not receive albumin. This means that the association might be a chance one, with the change in urine output and weight being related to time rather than albumin. Most preterm infants studied at this age would be in the process of losing up to 20% of their birth weight, at least in part via their urine output. Alternatively, the association might be causal, but unrelated to hypoalbuminaemia—albumin infusion might act as a mild diuretic by increasing renal blood flow.

Before neonatologists reach for the albumin bottle to treat this 'disease', we need to know more. Is it albumin infusion that is responsible for the diuresis? If so, is it temporary and does the fluid soon reaccumulate? More importantly, does it improve the infant's respiratory disease? Frusemide, which produces a much more impressive diuresis and weight loss has not been shown to alter the course of respiratory distress syndrome.2-4

References


Management of uncomplicated meconium ileus with T tube ileostomy

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SUMMARY Five neonates with uncomplicated meconium ileus were successfully managed by laparotomy and T tube ileostomy. This method seems to offer advantages over other surgical techniques used in the management of uncomplicated meconium ileus that fails to respond to decompression by Gastrografin enema.

Since Haight and Wilson's first description of the successful surgical management of meconium ileus in 1948,1 improvements in the surgical care of neonates, together with a variety of techniques to deal with the intraluminal obstruction, have led to greatly improved survival rates.2-3 Improved dietary and medical management have also given more hopeful long term prognosis.4,5 T tube ileostomy as advocated by Harberg et al.6 seems to offer important advantages over surgical techniques previously described for the management of uncomplicated meconium ileus that fails to respond to decompression by sodium meglumine diatrizoate (Gastrografin) enema.

Patients and methods

Since 1982 five neonates have been admitted to the