
The conclusions of Cooke are pertinent because some of the studies mentioned by Cooke indicate that lipid supplementation may be beneficial in the treatment of bronchopulmonary dysplasia (BPD) between the lipid-treated and control groups was not significant by conventional criteria (lipid group 14/20, control group 10/22, p>0.1). Admittedly the duration of respiratory support and supplemental oxygen treatment was greater in the lipid-treated group (p<0.05), but the atelecto–arterial oxygen tension difference was somewhat greater in these infants before randomisation. It is true that a randomised study of vitamin A supplementation demonstrated a reduced incidence of both BPD and retinopathy of prematurity in infants who received lipid emulsion could only exacerbate fat soluble vitamin deficiency.

Fat is a major nutrient which provides about half the non-protein energy intake in most parenteral nutrition regimens and it could not be omitted without constraining amino acid intake too. There is a temptation to increase glucose intake to overcome this problem but this increases both oxygen consumption and carbon dioxide production, further stressing a ventilated immature baby. Lipid emulsions also supply essential fatty acids, important for growth of the nervous system and the prevention of postnatal and neonatal leukotrienes. An infant of 26 weeks' gestation (1% fat by weight) would rapidly develop deficiency.

1 do not dismiss the possibility that some relationship between chronic lung disease and lipid infusion exists, but would argue that randomised studies of dosage and solution composition are the way forward, not draconian prescription. Neonatal intensive care certainly is a 'continuing experiment' but let us make sure it is adequately controlled.

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Factors associated with chronic lung disease in preterm infants

Str.—Professor Cooke's assertion that...parenteral lipid emulsions should be restrict...without respiratory symptoms1 is not warranted by the original data he presents or the published work he cites.


Professor Cooke comments:

Chronic lung disease (CLD) in preterm infants results from lung damage and abnormal healing caused by a wide variety of factors. My study is aimed at discovering the cause of the change in the incidence of CLD in our unit in 1987/8. The only variable examined that satisfied a clinically significant change was the early use of parenteral lipid infusion at birth. Indeed, at this time because of concern about poor postnatal weight gain in patients with CLD. It would be of course possible to explore this variable further, but I believe that only some infants, probably the sickest, are adversely affected by very early lipids.