Lucina

Low concentrations of immunoglobulin A (IgA) in breast milk may predispose to cow’s milk allergy in the infant. A study of mothers and genetically at risk infants in Helsinki (Pediatric Research 2000;48:457-62) showed that breast milk IgA concentrations were significantly lower in the mothers whose babies later developed cow’s milk allergy. A breast milk IgA concentration of less than 0.25 g/l at between 6 days and 4 weeks postpartum increased the risk of cow’s milk allergy 15 fold. The IgA in breast milk may limit the ingestion of food allergens through the intestine and possibly limits the amount of allergen in the breast milk.

Between 1981 and 1998, 44 children were admitted to the Royal Hospital for Sick Children in Edinburgh with non-accidental head injury (Developmental Medicine and Child Neurology 2000;42:591-4). Thirty two had early post traumatic seizures (EPTS). Six children died of whom five had EPTS. Fourteen children were neurologically normal on follow up, including all of those who survived and did not have EPTS. Sixteen had moderate or severe neurological problems. All of these had had EPTS and it had been resistant to treatment in 11 of them. Eight children had late post traumatic epilepsy the occurrence of which was related not to the severity of EPTS but to the severity of late neurological abnormality. It is argued therefore, that the main determinant of severe late disability is the severity of the initial injury rather than the severity of EPTS.

Although the benign partial epilepsies of childhood have a good prognosis they may not be entirely benign as cognitive or behavioural problems have been described. Of 22 children in Lausanne, Switzerland (Developmental Medicine and Child Neurology 2000;42:595-603) eight needed special attention at school but there was no characteristic cognitive profile. Cognitive regression or stagnation did not occur. Transient cognitive problems were in most cases related to increased parasymal EEG activity. These authors suggest that most children with benign partial epilepsy do not need antiepileptic drug treatment but that it should be tried for those with otherwise unexplained cognitive or learning problems, especially if of recent onset. Neuropsychological assessment should be repeated after treatment.

Paediatric neurologists in Liverpool (European Journal of Paediatric Neurology 2000;4:219-23) are concerned that boys with Duchenne muscular dystrophy are still being diagnosed late. They suggest that serum creatine phosphokinase concentration should be measured in boys who are not walking (four independent steps) by 18 months, are not using 10 words by 2 years, are 4-6 months behind in general development at 2 years, have an awkward or clumsy gait under 4 years, are unable to run or jump (both feet) by 4 years, or have painful hips or legs under 4 years of age.

The annual incidence of “shaken impact syndrome” in Scotland has been estimated at about 1 in 4000 infants (Lancet 2000;356:1571-2).

A trial in Calcutta (Journal of Tropical Pediatrics 2000;46:259-63) has added to the evidence that zinc supplementation is beneficial for malnourished children with acute diarrhoea. Eighty such children were randomised to zinc sulphate (177 mg/kg/day in three doses) or placebo and treated with oral rehydration solution. The supplemented group had a shorter duration of diarrhoea (70 v 103 hours), passed less weight of liquid stool (1.5 v 2.4 kg) and needed less oral rehydration solution (2.5 v 3.6 l).

After Haemophilus influenzae type b (Hib) immunisation, serum Hib antibody concentrations decline with time and this has led many countries to include a fourth dose in the second year. A UK study (JAMA 2000;284:2334-40) has, however, shown only slight decline in clinical protection. Between October 1992 and March 1999 the vaccine failure rate after three doses in infancy was 22 per million (96 children with invasive Hib disease of 4 368 200 immunised infants). Vaccine effectiveness was 96% in the first year of life and 97.6% in the sixth. It is concluded that a booster dose is not essential.

The classification of the epilepsies of early childhood is a difficult business for the non-specialist but essential if effective treatment is to be given. A placebo controlled trial of add on stiripentol (a cytochrome P450 inhibitor) in 42 children with “severe myoclonic epilepsy in infants” (in which myoclonic epilepsy appears not in infancy, but later) has shown significant benefit (Lancet 2000;356:1638-42). A 50% or greater seizure response was achieved in 71% (stiripentol) v 5% (placebo). Drug trials which include a mixed bag of childhood epilepsy syndromes tend to give negative results but those which come down on specific syndromes may show effectiveness.

The adrenal medulla is dependent on glucocorticoids for its normal development. A study in the USA (New England Journal of Medicine 2000;343:1362-8) has shown that children with congenital adrenal hyperplasia due to 21-hydroxylase deficiency have low plasma and urine catecho-lamine concentrations. Adrenalectomy specimens from three children showed incomplete development of the adrenal medulla on light microscopy and depletion of secretory vesicles in chromaffin cells on electron microscopy.

In Texas (Obstetrics and Gynecology 2000;96:321–7) 1364 small for dates singleton fetuses were examined by ultrasonography within 4 weeks of delivery. They were classified as asymmetric (ratio of head circumference: abdominal circumference above 95th centile for gestational age) or symmetric. Asymmetry was associated with significant increases in maternal hypertension, preterm delivery, emergency caesarian section, congenital anomalies, respiratory distress, intraventricular haemorrhage, neonatal sepsis, and neonatal mortality.

If early childhood bacterial and viral infections influence the development of Th1 and Th2 helper 1 and Th2 helper 2 (Th1/Th2) immunity, inhibiting IgE production and reducing the likelihood of atopy, then why do children in developing countries who are chronically infected with parasites have high serum concentrations of IgE but little atopy? Work in Gabon (Lancet 2000;356:1723–7) suggests that the answer may be interleukin-10, an anti-inflammatory cytokine. In children with schistosomiasis the probability of a positive skin prick test to house dust mite varied directly with serum concentration of house dust specific IgE and indirectly with schistosome stimulated release of interleukin-10 from blood mononuclear cells. It seems that chronic parasitic infection induces interleukin-10 release and that inhibits tissue reactivity to specific IgE.

In rural upper Egypt (Journal of Tropical Pediatrics 2000;46:282–7) 20% of under 5 year old children had diarrhoea at the time of a survey. Over a period of 6 months each child had, on average, between three and four diarrhoeal episodes. Four factors significantly increased the risk of recurrent diarrhoea: they were meat eating in the household less than four times a month, mother’s age under 20 years, child’s age under 1 year, and father illiterate.

Case control data from eight centres in seven European countries (EURODIAB ACE study) have shown that children with atopy, and particularly those with asthma, are less likely than other children to develop diabetes before the age of 15 years (Journal of Pediatrics 2000;137:470–4). The risk of childhood diabetes was reduced by about 30% in children with asthma. The results are thought to support the Th1/Th2 theory of immune development since type 1 diabetes is Th1 mediated.

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