Lucina

A study at 21 hospitals in seven developing countries (Bangladesh, Dominican Republic, Ethiopia, Indonesia, Philippines, Tanzania, and Uganda) has highlighted problems in the care of very ill children (Lancet 2001;357:106–10). These included lack of adequate triage, poor assessment of sick children, delayed treatment, poorly organised emergency treatment areas, lack of essential supplies, inappropriate treatment, inadequate monitoring, and low levels of knowledge in staff. Better training of staff and assessment and accreditation of hospital departments are needed.

In Belarus (JAMA 2001;285:413–20) 31 maternity hospitals and polyclinics were randomised to breast feeding promotion along the lines of the World Health Organisation and United Nations Baby-Friendly Hospital Initiative or non-intervention. Over 17 000 mother-singleton term infant pairs entered the study. Rates of exclusive breastfeeding (intervention v non-intervention) at 3 and 6 months were 43% v 6%, and 8% v 0.6%. At 12 months, breastfeeding of any degree was continuing in 20% v 11%. The intervention group had less risk of gastroenteritis (9% v 13%) and of eczema (3% v 6%) in the first year. The incidence of respiratory infections was 39% in each group.

The incidence of attention deficit/hyperactivity disorder (ADHD) in a 1976–1982 Rochester, Minnesota birth cohort followed up to a mean age of 15 years was 7.5% (JAMA 2001;285:60–6). Children with ADHD were significantly more likely than others to suffer major injuries or to develop asthma. They needed significantly more medical care and the cost of their medical care was more than double that of other children.

Over a period of 4½ years 315 children (under 19 years) were recorded in the US National Pediatric Trauma Registry as having suffered horse-related trauma (Journal of Pediatric Surgery 2000;35:1766–70). Sixty two per cent were girls and in 206 cases (65%) the injury occurred when the rider fell off the horse. Ninety two patients (29%) were kicked by the horse while dismounted. The most common injuries were skeletal fractures and head injuries. Forty per cent were admitted to intensive care and 39% needed surgery. Eight patients (2.5%) died. The most important safety measure was a well-designed helmet.

Treatment of port wine stains with the flashlamp-pumped pulsed dye laser is safe and effective. Now a study in Germany (British Journal of Dermatology 2000;143:1230–4) has shown that treatment in early childhood is less likely to be followed by recurrence than is later treatment. Recurrence (redarkening) occurred in none of the 19 patients treated before the age of 10 years and in 3%, 20%, and 23% of those treated in each of the subsequent three decades of life. Quite apart from recurrence the results were better in patients treated before the age of 10 years.

How the absence of dystrophin leads to the pathological changes in the muscles of patients with Duchenne muscular dystrophy is not known, but a recent suggestion is that it may be related to unregulated vasonestruction within the muscle on exercise because of a mislocation of nitric oxide production. A review in Nature Medicine (2001;7:27–9) refers mainly to an original paper in Proceedings of the National Academy of Sciences of the USA (2000;97:13818–23). Proteins associated with the dystrophin-glycoprotein complex are necessary for neuronal nitric acid synthase to be attached to the sarcolemma. A defect in this system might impair the vasodilator response to exercise and lead to muscle ischaemia. If this theory is true, it might lead to new lines of research raising the possibility of effective treatments.

Allergen avoidance is the most important aspect of the management of peanut and nut allergies. In a Cambridge clinic (Lancet 2001;357:111–5) emphasis was placed on detailed advice, both verbal and written. Self medication for reactions was graded according to the severity of previous attacks and ranged from oral antihistamine alone, through antihistamine and inhaled adrenaline, to antihistamine, inhaled adrenaline, and injected adrenaline (Epipen). Over a mean follow up of over 2 years, 88 of 567 patients (16%) had another reaction which was moderate or severe in 26 (5%) and severe in only three (0.5%). Nine patients received injected adrenaline, which was effective in all nine. The results seem better than in the few previous reports.

In the USA ten patients aged 5–22 years with mucopolysaccharidosis type 1 (one severe (Hurler’s syndrome), one mild (Schie’s syndrome), and eight intermediate (Hurler-Schie syndrome)) were treated with weekly intravenous infusions of recombinant human α-L-iduronidase for one year (New England Journal of Medicine 2001;344:182–8). The size of the liver returned to normal in all ten by 26 weeks and growth in height and weight improved in the six prepubertal children. There were also improvements in joint movements, sleep apnoea, and cardiac function, and urinary glycosaminoglycan excretion decreased. Transient urticaria during infusions occurred in five patients.

Cerebral oedema occurs in about 1% of episodes of diabetic ketoacidosis in children, has been associated with case fatality rates of 40–90%, and is responsible for more than half of all childhood deaths from diabetes. A retrospective study at nine centres in the USA and one in Australia (New England Journal of Medicine 2001;344:264–9, see also editorial, pages 302–3) included 6977 episodes of diabetic ketoacidosis in children over a period of 15 years (1982–97). Sixty-one of the children developed cerebral oedema, of whom 35 recovered completely, 13 survived with neurological sequelae, and 13 died. Signs of cerebral oedema began at an average of seven hours after the start of treatment but three children had evidence of cerebral oedema before starting treatment. Two biochemical features at presentation significantly increased the risk of cerebral oedema: they were low arterial pCO2 and high serum urea nitrogen concentration. Treatment with bicarbonate was also associated with increased risk. It is concluded that children with these biochemical features should be monitored particularly carefully for signs of cerebral oedema and hyperosmolar treatment given at the first sign of neurological deterioration and that bicarbonate should usually be avoided. The cause of the cerebral oedema remains uncertain.

A study of 72 adults with type 1 diabetes (Lancet 2001;357:331–5) has demonstrated that inhaled, dry-powder, human insulin can be effective. Control of diabetes was similar in patients randomised to subcutaneous ultralente insulin once daily plus inhaled insulin before meals three times daily and those randomised to continue their usual insulin injections two or three times daily. The potential advantages for children are obvious but the “flip” side (see commentary. Ibid: pages 324–5) is that large doses of inhaled insulin are needed, injected insulin is still necessary, the effectiveness of inhaled insulin needs more investigation and modern injection techniques with sharp needles and pen systems are very efficient.

In California (Archives of Pediatrics and Adolescent Medicine 2001;155:17–23) 9 year old children in one school were given 18 lessons over 6 months aimed at reducing their time spent watching television or videos or playing video games. Children in a similar school were controls. There were significant reductions in observed verbal aggression and peer-perceived aggressiveness in the intervention group.

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