

LUCINA

The natural DNA repair protein, alkylguanine-DNA alkyltransferase (AGT) undoes the methylation or chloroethylation damage to the guanine of DNA done by alkylnitrosourea treatment. So a drug that depletes tumour cells of AGT should impair antitumour drug resistance. US researchers (*Journal of Clinical Oncology* 1998;16:3750–5) have shown that the drug 0⁶-benzylguanine (0⁶-BG) given to adults by intravenous infusion 18 hours before operation for malignant glioma reliably depleted glioma tissue of AGT. The next step will be to work out the maximum dose of antitumour drug that can safely be given with the 0⁶-BG.

It is perhaps not surprising that the families of adolescents with anorexia nervosa often exhibit disturbed functioning. But what is cause and what is effect? A study in the north west of England (British Journal of Psychiatry 1999;174:63–6) suggests that family difficulties are perceived as being greater by the adolescents and their doctors than by the parents and may be greater when the anorexia is less severe. These difficulties do not improve with clinical improvement. Where this puts the cause and effect debate seems unclear.

Imposing your own ethics onto other people's circumstances is a dangerous thing to do (but not always wrong). Not long ago an editorial in the *New England Journal of Medicine* caused a stir by condemning the use of placebo controlled trials of short course zidovudine to prevent perinatal HIV in developing countries on the grounds that expensive lengthy treatment has been shown to be effective and the use of placebo was therefore unethical. A subsequent workshop endorsed five ethical principles including one providing that, "study participants should be assured the highest standard of care practically attainable in the country in which the trial is being carried out" (*Lancet* 1999;353:832–5). Now three placebo controlled trials, one in Thailand and two in Africa, have shown that short course zidovudine reduces HIV transmission from mother to baby by 37–50% (*Ibid*: 773–80, 781–5, 786–92). There are, however, many practical difficulties in the way of delivering even this treatment, especially in Africa.

In the right hands minimally invasive surgery may have advantages for even the smallest infants, just as it has for adults. Paediatric surgeons in Denver, Colorado (American Journal of Surgery 1998;176:654–8) performed 195 procedures on 18 infants aged 2 days to 30 weeks (weights 1300 to 5000 g) over a period of 4 years 3 months. The most common were Nissen fundoplication (103), pyloromyotomy (28), colon pull-through (11), and closure of patent ductus arteriosus (10), but they included colon resection (3), nephrectomy (1), and ovarian cystectomy (6). All but two were completed endoscopically and there were no deaths and only two intraoperative complications (one perforated stomach and one torn bladder). In discussion the lead author defends himself against attack, particularly about the value or wisdom of laparoscopic pyloromyotomy.

In the millennium before the one that preceded the one that is about to end Lucina was told by her Greek grandmother, Gaia, that flies carry disease. WHO policy has been that fly control in developing countries is not an effective way of preventing childhood diarrhoea. Now work in rural west Pakistan (*Lancet* 1999;353:22–5) has shown that liberal spraying with insecticide eliminates flies and reduces the incidence of diarrhoea. There was a 23% reduction in annual incidence but the effect was confined to the March–June fly season.

The old surgical adage about putting your foot in it if you don't put your finger into the rectum rarely applies to the examination of children. Surgeons at Alder Hey Children's Hospital, Liverpool argue (British Journal of Surgery 1999;86:376–8) that rectal examination causes discomfort to children, rarely influences clinical management, and on the few occasions when it is necessary should be done only by an experienced clinician. It can usually be avoided by using alternative strategies such as careful observation, ultrasound imaging, or examination and endoscopy under anaesthesia.

Occupational exposure to organic solvents during pregnancy was associated with a 13-fold increase in major malformations in a series in Toronto, Canada (*Journal of the American Medical Association* 1999;281:1106–9) but the risk was confined to those who developed symptoms from their exposure. Women at risk included factory workers, laboratory technicians, artists, printing industry workers, industrial chemists, and painters. There was no single pattern of malformation, possibly reflecting the variety of chemicals included in the term organic solvents.

A multicentre study in the USA (Annals of Emergency Medicine 1999;33:185–91) has confirmed the effectiveness of intravenous adenosine in children with supraventricular tachycardia. It worked in 71 of 90 episodes of atrioventricular node dependent supraventricular tachycardia in 74 patients treated in hospital emergency departments. Individual doses ranged from 0.03 to 0.5 mg/kg (although the recommended initial dose was 0.1 mg/kg) and the average number of doses was two (range 1–4). No patient developed bronchospasm or significant new arrhythmia after the injection but 22 had adverse effects, chief among which were nausea, vomiting, and chest pain. These authors recommend a dose range of 0.1 to 0.3 mg/kg.

Surgical correction of the kyphosis associated with myelomeningocele is difficult. Surgeons in Ontario, Canada (*Journal of Bone and Joint Surgery [Br]* 1999;81-B:245–9) have employed a single stage operation that uses a posterior incision and includes deliberate transection of the spinal cord. Of 13 children (age 4–16 years, mean 9) treated in this way only one had a deterioration in bladder function as a result. Correction of the spinal deformity was deemed excellent.