

# Lucina

Lucina finds data about birth defects of limited value unless each specific defect is considered separately. In Norway (*Journal of the American Medical Association* 2001;285:761–8), 2.5% of the 486 207 boys born between 1967 and 1982 had a birth defect. As might be expected, they were less likely to survive and less likely to have children than boys without a birth defect. Their children had a 6.5-fold increase in risk of the same defect and an 80% increase in risk of a different defect. Nevertheless, affected fathers accounted for only 1.6% of the risk of birth defects in the next generation and affected mothers for only 0.5%.

During the 1996 Olympic Games in Atlanta measures were taken to reduce traffic congestion in the city. These included 24 hour public transport, much expanded park-and-ride services, the banning of private cars from the city centre, and altered work schedules for local businesses. As a result (*Journal of the American Medical Association* 2001; 285:897–905) peak morning traffic was reduced by 23% and peak daily atmospheric ozone concentrations fell by 28%. At the same time the number of “acute care events” for asthma in children dropped by 11% in two local hospitals and by over 40% as measured by Medicaid claims and on the database of a health maintenance organisation. The reduction in morbidity seemed to be specific for asthma; non-asthma “acute care events” were not affected.

DIABAUD2 was a study of the glycaemic control of 1755 children under 15 years with type 1 diabetes at 18 centres in Scotland between August 1997 and February 1999 (*Diabetes Care* 2001;24:239–44). An unexpected finding was the degree of variation in glycaemic control between centres, the proportion of patients with good control (Hb A<sub>1c</sub> <8.5%) varying from 10% to 67%. The difference was most likely due to “deployment of resources, clinic organisation, and strategies of medical care”. Control was poorer in older children, those with a higher BMI, those using two rather than three injections a day, those without both parents at home, and those with a sibling with diabetes.

In Glasgow between 1970 and 1997 (*Journal of Bone and Joint Surgery* 2001;83-B:99–102) the incidence of haematogenous osteomyelitis in children under 13 years of age fell at a rate of 0.185 cases per 100 000 population per year, mostly because of a decline in the acute rather than the subacute form. The current incidence is just under three cases per 100 000

population per year. A report from Durban, South Africa (Ibid: 93–8) confirms that children with the subacute form of the disease do well with six weeks of antibiotic treatment.

In the past, tinea capitis in Britain was usually caused by *Microsporum canis* and children were infected from cats or dogs. Now child-to-child spread is the rule and the responsible fungi are *Trichophyton tonsurans*, *Microsporum rivalieri*, and *M audouinii*. In a London study (*British Journal of Dermatology* 2001;144:321–7) four weeks of terbinafine gave similar results to eight weeks of griseofulvin, with the exception of *M audouinii* infections for which griseofulvin was better.

Here’s an odd finding for you to ponder. In American military recruits (*American Journal of Epidemiology* 2001;153:338–44) the ratio of waist to thigh circumference was positively correlated with the difference in the number of fingerprint ridges between the fourth and fifth fingers of the right hand. Furthermore, old men in Bangalore, India had a smaller difference in these ridge counts than young men. The postulate is that a positive cephalocaudal gradient in fetal tissue growth may impair longevity. It’s odd though that the finding was restricted to the 4th–5th finger difference (both C8 innervation); 1st–5th finger difference (C6, C8) gave only negative findings, which seems to put a damper on the idea that it’s the level of spinal innervation that’s important.

Pleconaril is a new antiviral drug active against picornaviruses, including enteroviruses. It blocks enteroviral attachment to host cell receptors and inhibits viral uncoating. Of 36 patients with apparently life threatening enterovirus infections treated on a “compassionate release” basis (*Clinical Infectious Diseases* 2001;32:228–35), 28 were judged to have had a clinical response. They included four of six neonates with overwhelming enterovirus infection and 12 of 16 patients with chronic enterovirus meningoencephalitis (all with congenital immunodeficiencies, age range 2–50 years, median 16 years). A randomised trial in neonates is underway.

Talking of enteroviruses, in Perth, Australia in 1999 during an outbreak of hand, foot, and mouth disease, 14 children were admitted to hospital with neurological disease associated with enterovirus 71 infection (*Clinical Infectious Diseases* 2001; 32:236–42). The neurological syndromes

were: aseptic meningitis (5), Guillain-Barré syndrome (2), acute transverse myelitis (2), acute cerebellar ataxia (2), and one each of opso-myoclonus syndrome, benign intracranial hypertension, and febrile convulsion. Four children had long term neurological sequelae. These authors emphasise the immune basis of the neuropathology rather than the previously reported viral grey matter invasion.

The inflammatory and procoagulant responses to severe sepsis are mediated by inflammatory cytokines which are procoagulant and procoagulant factors which also promote inflammation. Activated protein C downregulates both responses and in severe sepsis its production from protein C is inhibited. In a 164 centre, 11 nation study of adults with severe sepsis (*New England Journal of Medicine* 2001;344:699–709) infusion of recombinant human activated protein C reduced 28 day mortality from 31% in the placebo group to 25% in the treated group. Severe bleeding occurred in 2.0% *v* 3.5%.

The evidence that MMR immunisation and autism are not related continues to mount. In California (*JAMA* 2001;285: 1183–5) the incidence of autism rose from 44 per 100 000 children born in 1980 to 208 per 100 000 children born in 1994 (a 373% increase) while, over the same period, immunisation coverage by age 24 months increased by only 14%.

Children with a household cat may be less likely to develop asthma than those without a cat. A study in New Mexico and Virginia, USA (*Lancet* 2001;357:752–6) has shown that, whereas high concentrations of house dust mites in the home lead to sensitisation, high levels of cat antigen are associated with fewer children sensitised. In both cases chronic exposure is accompanied by an IgG response, including IgG4. It is argued that such a response without sensitisation is a modified Th 2 response and a form of tolerance which may be the aim of immunotherapy. In some children, though, high level exposure to cat antigen was associated with sensitisation.

Live attenuated varicella vaccine was approved for use in the USA in 1995. A case control study in New Haven, Connecticut (*New England Journal of Medicine* 2001;344:955–60) has suggested an overall vaccine effectiveness of 85% and an effectiveness of 97% in preventing moderate or severe chickenpox.