

Lucina

Babies who die of sudden infant death syndrome (SIDS) often have a small pineal gland. Researchers in Israel (*Developmental Medicine and Child Neurology* 2000;42:487-91) measured urine levels of a melatonin metabolite (6-sulphatoxymelatonin, 6SMT) in 15 babies who had had an apparently life threatening event (ALTE), 15 who had had an apnoeic event not needing resuscitation, 15 infant siblings of SIDS victims, and 35 normal controls. They found that the ALTE babies had lower 24 hour excretion of 6SMT compared with the other groups. Six to eight weeks later 24 hour 6SMT excretion had increased in the ALTE babies, which suggested to the authors that there may be delayed development of melatonin production in such babies.

A study in Austria (*Diabetes Care* 2000;23:905-11) has confirmed the increased risk of both type I and type II diabetes in the children of diabetic mothers. The calculated increase in risk was 72-fold for type I diabetes in childhood and threefold for later type II diabetes. The biochemical and clinical indices suggestive of future type II diabetes were related to high insulin concentrations in amniotic fluid, whereas type I diabetes did not correlate with amniotic fluid insulin concentration. Type II diabetes in the offspring of diabetic mothers is likely to be a consequence of in utero metabolic experience but type I diabetes is mostly genetically determined.

More than a third of the one million measles deaths throughout the world each year in the 1990s were of infants, but live attenuated measles vaccine is relatively ineffective under the age of 9 months. There is, therefore, a need in developing countries for a simple, inexpensive, heat stable vaccine which is effective in young infants. Work in rhesus macaque monkeys (*Nature Medicine* 2000;6:776-81) has suggested that DNA plasmid vaccines which encode the viral haemagglutinin (H) or fusion (F) glycoproteins could meet this need. There are theoretical reasons for believing that DNA vaccines should be effective in stimulating the immature immune system and not be affected by maternally acquired antibodies (see commentary *Ibid*: 744-5).

Both municipal and hospital incinerators probably increase the risk of cancer for children born near to them. In a new method of data analysis, migration asymmetry, the birth and death addresses of children who died of cancer were compared. Using this method and previously published UK data, it has been shown that these children were twice as likely to have

moved away from an address within 5 km of an incinerator as they were to have moved towards one (*International Journal of Epidemiology* 2000;29:391-7). This migration asymmetry was not found for toxic-waste landfill sites. Thus, being born near an incinerator increases the risk of cancer but it is not possible to say for certain that the incinerators are to blame, as they tend to be situated near to industrial sources of atmospheric contamination.

A long term follow up study of 379 men and 295 women who underwent cardiac catheterisation as children in Israel between 1950 and 1970 (*International Journal of Epidemiology* 2000;29:424-8) showed a 2.3-fold increase in adult cancers in the men but produced two completely unexpected findings. Firstly, none of the women developed cancer, and secondly, in the men there was a 6-fold excess of lymphomas but no increase in leukaemias. Modern cardiology procedures involve less radiation exposure than did those used in 1950-1970.

Lucina is a dog lover but she worries about dogs and young children. A recent series in Bordeaux (*Journal of Pediatric Surgery* 2000;35:580-3) included 100 children who needed immediate surgery after a dog bite to the face. Ninety-three were under the age of 10 years and 68 under five years. Forty-one children had moderate to severe injury. Almost 60% of wounds involved the cheek, lip, or orbit. They disinfected the wounds with betadine and hydrogen peroxide and gave a five day course of amoxicillin and metronidazole, and had only one post-operative wound infection. Four children needed repeat surgery for unsightly scars.

Infection with *Helicobacter pylori* occurs early in life but much remains unknown about the ways in which it is acquired and its long term consequences. In Germany, Turkish children are known to be at high risk of the infection. A study of such children using an *H pylori* antigen enzyme immunoassay method on stool samples (*Journal of Pediatrics* 2000;136:744-8) showed positivity rates in asymptomatic children of 9% in 1 year olds, 36% in 2 year olds, and 32% in 4 year olds. Immunisation against this organism would probably need to be given in infancy.

To the known consequences of maternal smoking in pregnancy can be added transient retinal vascular abnormalities in the newborn. A study in Greece (*Journal of Pediatrics* 2000;136:760-6) has shown that both arterial and venous retinal abnormalities (retinal arterial narrowing and

straightening (RANS) and retinal venous dilatation and tortuosity (RVDT)) are more common in the babies of mothers who smoked in pregnancy, especially if the babies are small for gestational age. Intraretinal haemorrhages are associated with RVDT. All of the changes cleared by the age of 6 months.

A 6 week old baby investigated in Boston, USA (*New England Journal of Medicine* 2000;343:185-9) had a large haemangioma of the liver and hypothyroidism. He needed hefty doses of thyroxine and the haemangioma was shown to be producing large amounts of type 3 iodothyronine deiodinase, which inactivates thyroxine. A search of hospital records revealed two previous similar cases and analysis of haemangioma tissue from five other patients showed type 3 iodothyronine deiodinase activity in three, one hepatic and two cutaneous haemangiomas.

Researchers in Italy reported an association between prolonged QT syndrome and sudden infant death syndrome in 1998. They hypothesised that these infants might have a spontaneous gene mutation. Now (*New England Journal of Medicine* 2000;343:262-7) they have described a child with prolonged QT who had an apparently life threatening event at age 6 weeks and was shown to have a spontaneous mutation of the cardiac sodium channel gene. The child was resuscitated from ventricular fibrillation and has done well on treatment with propranolol and mexiletine.

Health visitors may help to keep young children out of hospital. A study of 164 general practices in east London (*British Journal of General Practice* 2000;50:31-6) showed that practice approval for child health surveillance or the provision of a child health clinic within the practice did not influence rates of hospital utilisation in children under 5 years but the number of hours of health visiting time provided to the practice was inversely related to the rates of emergency hospital admission in this age group.

The average diet in the Faeroe Islands contains meat and blubber from the pilot whale. The meat is often contaminated with mercury and the blubber with polychlorinated biphenols (PCBs). A study of 180 mothers and newborn babies (*Journal of Pediatrics* 2000;136:599-605) has shown a correlation between cord blood mercury concentrations and delayed neurological development at 2 weeks of age. No effect of PCB exposure was demonstrated.