Work in London and Southampton (Lancet 1996;348:353-8) has helped to characterise children with growth failure and psychosocial deprivation who might grow well when removed from the stressful environment. These children had hyperphagia and often learning difficulties. The proposed diagnostic criteria for 'hyperphagic short stature' are: growth failure with height below third centile, normal body mass index, and age over 2 years, plus one of: food stealing, or gorging and vomiting, plus two of: excessive eating, excessive drinking, food hoarding, nocturnal food foraging, or seeking out food discarded or in bins. Such children had greatly improved growth hormone secretion after three weeks in hospital.

Gene therapy means introducing a viral vector into the patient’s cells and the effects of the virus are unpredictable; it could, for insistence, cause cancer. It would be better if the virus could be got rid of once it has done its job. Now research workers in Germany have developed a technique which might achieve this aim (News report, New Scientist 1996;151:20). They infected mouse cells with a murine leukaemia virus which produced an enzyme, Cre-recombinase. When the virus entered the host cell DNA the enzyme caused cleavage at sites which resulted in viral DNA being eliminated but the therapeutic gene was left intact. The potential implications for human gene therapy are obvious.

To be effective artificial surfactants must be capable of moving quickly from solution to the water-air surface. Lipid complexes which are capable of changing from a lamellar bilayer to a hexagonal tubule configuration are what is needed (Science 1996;273:330-2). Workers in the USA have shown that a DOPE-DPPC-cholesterol (dioleoyl-phosphatidylethanolamine-dipalmitoylphosphatidylicholimine-cholesterol) system remains lamellar at room temperature but transforms to the hexagonal configuration at body temperature. This transformation ensures rapid spreading of the lipids to the water-air interface at the higher temperature. Preliminary tests in preterm rabbits showed that the artificial liposomes compared well with human surfactant.

Research into receptor binding has led to the demonstration (Science 1996;273:458-63) that small peptide molecules can bind to and activate the erythropoietin receptor. The peptides activated signalling pathways apparently identical to those activated by natural erythropoietin and stimulated erythropoiesis. The peptides bind to and activate the erythropoietin receptor. The peptides activated signalling pathways apparently identical to those activated by natural erythropoietin and stimulated erythropoiesis. The potential implications for human gene therapy are obvious.

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Research into receptor binding has led to the demonstration (Science 1996;273:458-63) that small peptide molecules can bind to and activate the erythropoietin receptor. The peptides activated signalling pathways apparently identical to those activated by natural erythropoietin and stimulated erythropoiesis. Although their amino acid composition was dissimilar. The development of small molecule mimetics could have treatment implications such as the production of oral or transdermal preparations where only injectable ones were previously available.

Between 1939 and 1962 at one Chicago hospital over 4000 children received radiotherapy for benign conditions of the head and neck, most commonly for enlarged tonsils. There has subsequently been a high incidence of benign and malignant tumours of the thyroid and salivary glands. Now a high rate of benign neural tumours (schwannomas, acoustic neuromas, and meningiomas) has been documented (Archives of Internal Medicine 1996;156:1873-8). These tumours, mostly schwannomas, mainly affected spinal roots if multiple and cranial nerves if single. One of seven patients with multiple tumours had neurofibromatosis type 2.

The theory that giving cows’ milk to babies causes diabetes gained no support from a study in Denver, Colorado (Journal of the American Medical Association 1996;276:609-14). Examining 253 non-diabetic child first degree relatives of people with insulin dependent diabetes they were unable to relate the presence of β cell autoimmune antibodies in 18 to any aspect of infant feeding. On the other hand, in Rome a significant in vitro T lymphocyte response to cows’ milk beta casein was seen in 24 of 47 young people with diabetes and one of 36 healthy controls (Lancet 1996;348:926-8). A Lancet commentator points out that early exposure to cows’ milk probably increases the risk of diabetes by about 50% only but concludes that ‘the cows’ milk story remains alive and kicking’.

Legislation in Hong Kong in 1990 was aimed at reducing the sulphur content of fuel oil. Its implementation was followed by a fall in childhood complaints of cough, sore throat, and wheezing in a heavily polluted district (International Journal of Epidemiology 1996;25:821-8). Nevertheless, the respiratory risks to children from tobacco smoke in the home were greater than from air pollution.

The development of live oral rotavirus vaccines will be encouraged by data from Mexico (New England Journal of Medicine 1996;335:1022-8). Some 200 infants were followed up weekly from birth to 2 years. The risk of further rotavirus infection decreased after each episode of rotavirus infection; after 1, 2, and 3 episodes the relative risk was 0.62, 0.40, and 0.34. Two episodes of rotavirus infection apparently gave complete protection from subsequent moderate to severe rotavirus diarrhea.

Arrhythmogenic right ventricular dysplasia (ARVD) is an often autosomal dominant condition that affects children and young adults, causing exercise induced ventricular arrhythmias and sudden death, and characterised by fibrosis and fatty replacement of right ventricular muscle. Apoptosis is the programmed cell death which occurs in tissue development and natural cell replacement and is distinguished from necrosis. Workers in France (New England Journal of Medicine 1996;335:1190-6) have shown evidence of apoptosis (DNA fragmentation) in six of eight ARVD necropsy hearts and none of four ‘normal’ necropsy hearts. It is not known whether the apoptosis is cause or effect in ARVD but, if cause, it might be possible to inhibit the process and preserve heart function. The same process could be involved in the development of idiopathic dilated cardiomyopathy in adults.

A birth cohort study in Christchurch, New Zealand (Journal of the American Academy of Child and Adolescent Psychiatry 1996;35:1355-64 and 1365-74) has shown a 10% rate of sexual abuse before the age of 16 (girls 17%, boys 3%). Marital conflict, impaired parenting, and parental alcohol abuse were contributing factors. Abuse involving attempted or actual intercourse was reported by 5.6% of girls and 1.4% of boys. Psychiatric disorder at age 18 was very common, major depression affecting 64% of those subjected to intercourse and 50% when the abuse did not include intercourse. Anxiety disorder, conduct disorder, alcohol and other substance abuse, and attempted suicide were all common and the effects remained after statistical adjustment for social, educational, and other childhood factors.