Atoms

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THE MYSTERIES OF IMMUNISATION

A very wise colleague of mine once told me that it is very hard to predict how immunisations will react with each other, particularly with respect to immunogenicity. As new combination vaccines are produced, often by different manufacturers with slightly different antigens, and immunisation schedules change, we should not assume that immunogenicity will remain unchanged. Nicolas Kitchin and colleagues describe changes in the immune response following the administration of DTaP-IPV-Hib vaccine with one of two different meningococcal group C conjugate vaccines at 2, 3 and 4 months of age. Andrew Pollard adds an erudite discussion of vaccine immunogenicity. Unfortunately, as we add more and more vaccines to the immunisation schedule, and adolescent vaccination becomes critical, we are likely to see an increase in the number of variable immune responses.

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SEPTICAEMIA IN CHILDREN WITH SICKLE CELL DISEASE IN AFRICA

I have cared for children with sickle cell disease for over 25 years. Prior to penicillin prophylaxis, death and disability from invasive pneumococcal disease (IPD) were common. However, following the introduction of penicillin prophylaxis, and more recently the conjugate pneumococcal vaccine, we rarely see children with sickle cell disease who have IPD. In an important study from Kampala, Monica Etima reports that in a group of children with sickle cell disease, *Staphylococcus aureus* (60%) and *Haemophilus influenzae* (19%) were far more likely to cause septicaemia than *Streptococcus pneumoniae* (6%). They describe additional studies from Africa which report that the pneumococcus is not the predominant organism that causes invasive disease. These reports have important implications for the care of children with sickle cell disease in many parts of Africa—the antibiotic used for prophylaxis as well as the antibiotic(s) of choice if a young child develops fever may need to provide broad spectrum coverage.

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THE TRAVELLING TESTIS

I thought that acquired undescended testis was quite rare. However, in a study from the Netherlands, investigators suggest that it may be far more common than usually appreciated. In a study of 3433 Dutch school children, they found an overall prevalence of acquired undescended testis of 1.5%.

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NEWS AND NOTES FROM AROUND THE WORLD

As I previously mentioned, in January 2006 we reorganised our Editorial Board. Rather than having a majority of members from the UK, we invited distinguished scholars from around the world to advise us. In this month's issue we publish our first News and Notes, in this case, from Nigeria. Raphael Oruamabo describes the devastating effects of neonatal tetanus, and more importantly, proposes a relatively simple and affordable solution—a traditional birth attendant delivery kit. We hope to have more contributions from our international editorial board members in the near future.

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THE BUILT ENVIRONMENT

The epidemic of obesity has led to renewed interest in the ''built environment.'' What factors are associated with children playing outside or walking to school? Is there a way in which we can create neighborhoods that are more conducive to moderate exercise? Although many factors govern where people live, and how they exercise, a better understanding of the built environment may lead to more creative approaches to increasing physical activity. Daniel Alton and colleagues explore this issue in their study of 473 children who attend school in Birmingham. After categorising children into high and low walkers, they examined factors that are associated with such activity.

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THIS MONTH IN FETAL & NEONATAL

- Is it possible to develop criteria that identify febrile neonates who have serious bacterial infection? Although Ronen Marom and colleagues have derived such criteria, in an accompanying perspective Peter Rudd explores the issue of identification and treatment of neonates with fever. ***See pages F2 and F15***
- In an important study, Lucy Smith details the persistent socio-economic inequalities in very preterm birthrates that have persisted over a 10-year period in the former Trent health region. In 2003, ''the most deprived decile were at nearly twice the risk of very preterm birth compared with those from the least deprived,'' 16.4 per 1000 vs 8.5 per 1000. She also reports that the rate of very preterm singleton birth has increased from 11.9 to 13.7 per 1000 births. This increase mimics that of many other countries, including the US. Certainly, human assisted reproduction has increased the number of preterm infants, particularly twins and triplets, but in addition we have made very little progress in preventing and treating premature labour. ***See page F11***
- A glimpse of the future is apparent in the article from Geza Bokodi from Budapest. He and his colleagues examined the impact of certain genetic polymorphisms on cytokine production in 153 low birth weight infants and 172 healthy term infants. Carriers of a particular polymorphism required substantially more ventilation and oxygen supplementation than those not carrying the allele. Developing specific gene therapy based upon genetic profiling will become more and more common. ***See page F25***