Clippings

Whooping cough in school children

❑ The objective of this study was to estimate the proportion of school age children with a persistent cough who have evidence of a recent Bordetella pertussis infection. This was a prospective cohort study from October 2001 to March 2005 in Oxfordshire, England. 172 children aged 5-16 years who presented to their general practitioner with a cough lasting 14 days or more who consented to have a blood test were enrolled. The main outcome measures were serological evidence of a recent Bordetella pertussis infection; symptoms at presentation; duration and severity of cough; sleep disturbance (parents and child). 37.2% children had serological evidence of a recent Bordetella pertussis infection; 55 (85.9%) of these children had been fully immunised. At presentation, children with whooping cough were more likely than others to have whooping, vomiting and sputum production. Children with whooping cough were also more likely to still be coughing two months after the start of their illness, continue to have more than five coughing episodes a day, and cause sleep disturbance for their parents. (BMJ 2006 Jul 22; 333 (7560): 174-7).

Comments: For school age children presenting to primary care with a cough lasting two weeks or more, a diagnosis of whooping cough should be considered even if the child has been immunised.

Deferasirox (Exjade, ICL670) for thalassemia

❑ Iron accumulation is an inevitable consequence of chronic blood transfusions and results in serious complications in the absence of chelation treatment to remove excess iron. Deferoxamine (DFO) reduces morbidity and mortality although the administration schedule of slow, parenteral infusions several days each week limits compliance and negatively affects long-term outcome. Deferasirox (Exjade, ICL670) is an oral chelator with high iron-binding potency and selectivity. In a phase II study, the tolerability and efficacy of deferasirox were compared with those of DFO in 71 adults with transfusional hemosiderosis. Patients were randomised to receive once-daily deferasirox (10 or 20 mg/kg or DFO (40 mg/kg, 5 days/week) for 48 weeks. Both treatments were well tolerated and no patient discontinued deferasirox due to drug-related adverse events. Decreases in liver iron concentration were comparable in the two groups. (Haematologica 2006 Jul; 91(7): 873-80).

Comments: Deferasirox at daily doses of 10 or 20 mg/kg was well tolerated and, at 20 mg/kg, showed similar efficacy to DFO 40 mg/kg in terms of decreases in liver iron concentration.

Weight gain and routine albendazole administration

❑ The aim of this study was to estimate the effectiveness of delivering an anthelmintic through a community child health programme on the weight gain of preschool children in Uganda. Treatment of children aged between 1 and 7 years with 400 mg albendazole added to standard services offered during child health days over a 3-year period. The provision of periodic anthelmintic treatment as a part of child health services in Uganda resulted in an increase in weight gain of about 10% (166 g per child per year, 95% confidence interval 16 to 316) above expected weight gain when treatments were given twice a year, and an

increase of 5% when the treatment was given annually. (BMJ 2006 Jul 15; 333 (7559): 122).

Comments: Deworming of preschool children as part of regularly scheduled health services seems practical and associated with increased weight gain.

Serum uric acid as an obesity indicator in adolescence

❑ In adults, serum uric acid levels are positively correlated with body mass index (BMI) and hyperuricemia is considered to be a common lifestyle disorder related with obesity. However, the relation of serum uric acid levels with obesity has not been elucidated in children and adolescents. Serum uric acid levels were determined in 1,729 healthy children, consisted of 923 boys and 806 girls, aged 9.1 - 15.0 years. The incidence of hyperuricemia (defined as more than 7.0 mg/dl) in boys and girls were 8.8% and 0.6%, respectively. In Japan, percentage of overweight (POW) is usually used as an alternative indicator for obesity. In general, children are evaluated as obesity, when percentage of overweight is equal to or more than 20%. Serum uric acid levels were positively correlated with obesity-related indicators, BMI and POW, in both boys and girls. (Tohoko J Exp Med 2006 Jul; 209(3): 257-62).

Comments: These results suggest that serum uric acid levels are significantly increased with obesity and could be used as one of obesity-related indicators even in early adolescence.

Growth hormone for burns

The aim of this study was to determine the efficacy of growth hormone given to severely burned children from discharge to 12 months after burn and for 12 months after the drug was discontinued. It has been previously shown that low-dose recombinant human growth hormone (rhGH), given to children after a severe thermal injury, successfully improved lean muscle mass, bone mineral content, and growth. The aim of the present study was to investigate long-term functional improvements after treatment. Forty-four paediatric patients with over 40% total body surface area burns were studied for 24 months after burn. Patients were randomized to receive either rhGH (0.05 mg/kg body weight) or placebo. Height, weight, lean body mass, bone mineral content, cardiac function, and muscle strength significantly improved during rhGH treatment compared with placebo. (Ann Surg 2006 Jun; 243(6): 796-801).

Comments: Administration of rhGH for 1 year after burn was safe and improved recovery. These salutary effects continued after rhGH treatment was discontinued.

Low ozone exposure and respiratory symptoms

❑ Recent studies indicate that the U.S. Environmental Protection Agency (EPA) ozone standards may not protect sensitive individuals. In this study respiratory effects of ozone were examined in infants who may be vulnerable, particularly if they are children of asthmatic mothers. Women delivering babies at one of five hospitals in southwestern Virginia between 1994 and 1996 were invited to participate in a cohort study; 780 women enrolled. Ambient air quality data (ozone and particulate matter) were collected at a central monitoring site. Mothers were interviewed at enrolment and approximately biweekly to report infants' daily symptoms. Ozone metrics included 24-hr average, peak 1-hr, and maximum 8-hr average. Analyses were repeated for the 61 infants whose mothers had asthma. For every interquartile-range increase in same-day 24-hr average ozone, likelihood of wheeze increased 37% [95% confidence interval (CI), 2-84%]. Among infants of asthmatic mothers, same-day 24-hr average

ozone increased likelihood of wheeze 59% (95% CI, 1-154%) and of difficulty breathing 83% (95% CI, 42-136%). Maximum 8-hr ozone and peak 1-hr ozone were associated with difficulty in breathing, but not wheeze, in infants of asthmatic mothers. Ozone was not associated with cough. (Environ Health Perspect .2006 Jun: 114(6): 911-6).

Comments: At levels of ozone exposure near or below current U.S. EPA standards, infants are at increased risk of respiratory symptoms, particularly infants whose mothers have physician-diagnosed asthma.

Prevention of rotavirus gastroenteritis

❑ In February 2006, a live, oral, human-bovine reassortant rotavirus vaccine (RotaTeq) was licensed for use among U.S. infants. The Advisory Committee on Immunization Practices recommends routine vaccination of U.S. infants with 3 doses of this rotavirus vaccine administered orally at ages 2, 4, and 6 months. The first dose should be administered between ages 6-12 weeks. Subsequent doses should be administered at 4-10 week intervals, and all 3 doses should be administered by age 32 weeks. (MMWR Recomm Rep 2006 Aug 11; 55(RR-12): 1-13).

Comments: Rotavirus vaccine can be co-administered with other childhood vaccines. Rotavirus vaccine is contraindicated for infants with a serious allergic reaction to any vaccine component or to a previous dose of vaccine.

Neonatal MRI to predict neurodevelopmental outcome

❑ Very preterm infants are at high risk for adverse neurodevelopmental outcomes. Magnetic resonance imaging (MRI) has been proposed as a means of predicting neurodevelopmental outcomes in this population. In this study 167 very preterm infants (gestational age at birth, 30 weeks or less) were studied to assess the associations between qualitatively defined white-matter and grey-matter abnormalities on MRI at term equivalent (gestational age of 40 weeks) and the risks of severe cognitive delay, severe psychomotor delay, cerebral palsy, and neurosensory (hearing or visual) impairment at 2 years of age (corrected for prematurity). Moderate-to-severe cerebral white-matter abnormalities present in 21 percent of infants at term equivalent were predictive of the following adverse outcomes at two years of age: cognitive delay, motor delay, cerebral palsy and neurosensory impairment. Grey-matter abnormalities (present in 49 percent of infants) were also associated, but less strongly, with cognitive delay, motor delay, and cerebral palsy. (N Eng J Med 2006 Aug 17; 355(7): 685-94).

Comments: Abnormal findings on MRI at term equivalent in very preterm infants strongly predict adverse neurodevelopment outcomes at two years of age. These findings suggest a role for MRI at term equivalent in risk stratification for these infants.

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