

Clippings

❑ Viral infections of the respiratory tract may commonly cause episodic wheeze in children aged between 1 and 5 years (preschool viral wheeze). Even though most children become asymptomatic by 6 years, the persistence of wheeze is associated with above-average systemic eosinophil priming. The use of short-term oral prednisolone therapy in pre-school viral wheeze was evaluated in a randomized controlled trial, with stratification for systemic eosinophil priming. Once admitted with viral wheeze, these children were stratified according to amounts of serum eosinophil cationic protein and eosinophil protein X, and randomised to parent-initiated prednisolone (20 mg one daily for 5 days) or placebo for the next episode. The primary outcomes were the 7-day mean daytime and night-time respiratory symptom scores, which were analyzed by mean differences between treatment groups. Mean daytime and night time respiratory symptom scores and need for hospital admission did not differ between treatment groups. The authors concluded that there was no benefit of short course prednisolone therapy even in children with high eosinophil priming. (Lancet 2003; 362: 1433-1438)

❑ Inhaled Insulin is a novel mode of insulin delivery with several specialized aerosol delivery systems being in various stages of development. Researchers at the University of California have compared the Aerodose insulin inhaler with standard subcutaneous insulin and determined its dose response relationship in adults with Type 2 diabetes. They found the inhaled insulin to be associated with shorter time-to-peak metabolic levels and time-to-peak metabolic effects. Comparison of total insulin

absorption versus total metabolic effect revealed overlapping dose-response relationships for both inhaled and subcutaneous injection treatments. Comparison of slopes revealed no significant differences between the inhaled and subcutaneous injection treatment groups ($P = 0.6$). However it needs further studies before this experimental form of therapy comes into clinical use. (Diabetes Care 2003; 26; 2842-2847)

❑ Anecdotal use of Sildenafil for Pulmonary arterial hypertension (PAH) has shown benefits but its long-term effects and efficacy in terms of functional capacity and hemodynamics have not been established. It acts by inhibition of Phosphodiesterase-5, which is present in pulmonary artery smooth muscle cells. A report from Canada evaluating the use of Sildenafil over 3 months (50 mg orally 8 hourly) in patients with PAH documented improvement in NYHA Functional Class by ³ 1 class, in PA pressures and pulmonary vascular resistance index. It also helped to reduce right ventricular mass, as measured by MRI. No adverse effects were documented but larger trials are needed to evaluate this treatment modality in comparison to existing methods. (Circulation 2003; 108; 2066)

❑ Necrotizing Enterocolitis (NEC) in pre-term infants requires careful initiation of feeds to ensure adequate recovery of bowel function and to prevent recurrent NEC. Majority of infants have “Medical NEC” not requiring surgical intervention but there are risks of secondary infection and nutritional deficits. A trial evaluating preterm infants with NEC (Bell stage II or greater) compared the benefits of early enteral feeding (versus the standard

practice of feeding after 10th day) and incidence of recurrent NEC. Enteral feeds were commenced in these babies once no portal vein gas was demonstrated on abdominal ultrasound for 3 consecutive days. The authors found that in these 523 infants, as against historic controls (436 babies), enteral feeds were re-started at a median of 4 days after onset of NEC in early feeding group versus 10 days in control group. Early feeding was associated with shorter time to reach full enteral feedings, a reduced duration of central venous access, less catheter-related septicemia, and a shorter duration of hospital stay. In the early feeding group, 1 infant died of NEC and 2 had recurrent NEC as against 2 deaths and 1 recurrent NEC in control group. The study was however underpowered to exclude a higher risk of recurrent NEC with early enteral feeding. (*J Pediatr* 2003; 143; 484)

□ Prevention of seasonal allergic rhinitis by nasal irrigation with hypertonic saline has been advocated as an inexpensive and effective method. A study conducted on children with documented allergy to *Parietaria* pollen using this treatment modality during the pollen season showed significant improvement as against controls that did not receive it. A mean daily rhinitis score based on the presence of nasal itching, rhinorrhoea, nasal obstruction and sneezing was calculated for each week of the pollen season in these patients. This score progressively reduced during the study period in the treatment group with statistically significant reduction in 3rd, 4th, and 5th week of therapy. Since the patients were allowed use of oral antihistaminics as and when required, their drug consumption per week was also recorded. A decreased consumption was noted in the treatment group, becoming more evident after the 2nd week of therapy. (*Pediatr Allergy Immunol* 2003; 14; 140-143)

□ The clinical presentation of pertussis is

determined by various factors such as vaccination status, antibiotic treatment, age at diagnosis, and sex. An analysis of a cohort of 788 laboratory confirmed cases of pertussis (by culture or serology) with respect to their vaccination status revealed that the duration of cough was directly related to the vaccination status, with culture positive cases and previously antibiotic treated cases having a longer duration. Age was directly related to duration of cough, whereas it was inversely related to duration of spasmodic cough after 3 years of age. Pertussis in older children may be characterized by short duration of spasmodic cough. In view of the observation that vaccination status may influence clinical presentation, the authors suggest that clinical case definitions for the purpose of surveillance based on the presence of 2 weeks of spasmodic cough may not be appropriate where pertussis vaccination uptake is high. (*Pediatrics* 2003; 112; 1069-1075)

□ The presentation of Rheumatic Fever in children less than 5 years of age is different from that of their older counterparts. A report from the University of Utah cardiology database identified 541 pre-school children diagnosed between 1985 and 2000 and analyzed their clinical and laboratory investigation profile. These children were more likely to have moderate to severe carditis and to present with arthritis or the rash of erythema marginatum but were found to be less likely to have chorea. Occurrence of chronic rheumatic heart disease was common in those who initially presented with carditis. About 33% of them had subclinical echocardiographic evidence of valvular disease and their long-term follow-up is necessary to determine the outcome. (*Pediatrics* 2003; 112; 1065-1068)

□ Septic arthritis is known to cause residual dysfunction in 10 to 25% of cases and

the severity of inflammation correlates best with the concentration of cytokines in the synovial fluid. Treatment with steroids in experimental models of *H influenzae* and *Staphylococcus aureus* arthritis showed decreased cartilage degradation. A Double blind, randomized, placebo-controlled trial of early 4-day course of low dose dexamethasone as adjuvant therapy in the treatment of hematogenous septic arthritis in children showed reduced residual joint dysfunction at the end of therapy and at 6 months and 12 months of follow up. A total of 50 patients each were randomly assigned to the treatment and control group and the 2 groups of patients were comparable with respect to age, sex, duration of symptoms, pathogen, affected joint and therapeutic and diagnostic procedures. There was also a statistically significant shortening of the duration of symptoms during the acute phase in the treatment group. (Pediatr Infect Dis J. 2003 Oct; 22: 883-888)

□ A Meta-analysis of Randomized Controlled Trials evaluating the efficacy of Epinephrine for the treatment of acute viral bronchiolitis showed short-term benefits with epinephrine use among outpatients in comparison to salbutamol or placebo. Epinephrine was better than placebo in terms of better oxygen saturation and respiratory rate at 30 minutes and clinical score at 60 minutes among outpatients and also with the latter parameter among inpatients. In comparison to nebulized salbutamol in these patients, epinephrine treatment showed better oxygen saturation and respiratory rates at 60 minutes and heart rates at 90 minutes. The

same comparison among inpatients showed only improvement in the respiratory rate at 30 minutes among inpatients. Overall, there is still insufficient evidence to support the use of epinephrine among inpatients and large, multicentered trials are required before routine use among outpatients can be strongly recommended. (Arch Pediatr Adolesc Med. 2003; 157: 957-964).

□ Active evaluation of household child contacts of patients with pulmonary tuberculosis can decrease the morbidity and mortality due to tuberculosis by their timely detection and treatment. A study from Malawi assessing active versus passive case finding among household child contacts of adults with tuberculosis yielded 9 times more cases with active case finding. The proportion of children less than 6 years of age who were placed on isoniazid preventive therapy was also higher in the active case finding group. The index case population in this study also had a very high prevalence of HIV infection (69%) and therefore active case finding among the child contacts of these patients is all the more important to reduce their morbidity and mortality. The authors also found that transport costs associated with chest X-ray screening prior to starting INH preventive therapy was the major reason for low INH uptake among the study population. (Int J Tuberc Lung Dis 2003; 7(11); 1033-1039)

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