

Clippings

Adenoids and nocturnal enuresis- an unlikely connection!

□ Adenotonsillectomy may hasten the resolution of nocturnal enuresis in children with upper airway obstruction due to adenotonsillar hyperplasia, new research suggests. The present study, involved 86 prepubertal children who underwent adenotonsillectomy to improve their upper airway obstruction. Prior to surgery, 36 of the children (42%) had nocturnal enuresis, the researchers report. Adenotonsillectomy was associated with a significant reduction in the number of nocturnal enuresis episodes. Twelve patients (33%) experienced complete resolution, 11 (31%) showed a significant improvement, and 13 (36%) had no change. The authors believe that patients with upper airway obstruction should be asked about enuresis and that enuresis may add to the indications for surgical intervention in this group. *J Urol* 2006;175: 1885-1888.

Comments: An unusual combination of illnesses having a significant interaction.

GERD treatment causes increased risk of infections

□ Gastric acid inhibitors used to treat gastroesophageal reflux disease (GERD) in young children are associated with an increased incidence of acute gastroenteritis and community-acquired pneumonia, according to results of a prospective study conducted by Italian physicians. The investigators enrolled children, 4 to 36 months old, who had GERD symptoms, but were otherwise healthy. Ninety-one subjects were treated with the H2 blocker ranitidine or the PPI omeprazole for 2 months, and 95 children were assigned to a

control group. The rate of acute gastroenteritis and pneumonia rose significantly in the children treated with gastric acid inhibitors during follow-up (47% and 12%) with either ranitidine or omeprazole. The authors feel that while it may be appropriate to treat children with high risk of GERD complications (like children with severe neurologic impairment or chronic lung diseases) with H2 blockers or PPIs, in other children who are not high risk, the pediatrician needs to consider the increased risk of infection before prescribing an acid blocker. *Pediatrics* 2006; 117: e817

Comments: We were already aware of the problems with H2 blockers in PICU leading to increased infection, but this study adds significantly by suggesting a similar problem on an outpatient basis too.

Ondansetron use in pediatric emergency

□ Vomiting limits the success of oral rehydration in children with gastroenteritis. The present double-blind trial was conducted to determine whether a single oral dose of ondansetron, an antiemetic, would improve outcomes in children with gastroenteritis. A group of 215 children (6 months through 10 years of age) who were treated in a pediatric emergency department for gastroenteritis and dehydration were studied. As compared with children who received placebo, children who received ondansetron were less likely to vomit (14 percent vs. 35 percent), vomited less often ($P<0.001$), had greater oral intake, and were less likely to be treated by intravenous rehydration (14 percent vs. 31 percent). Also the mean length of stay in the emergency department was reduced by 12 percent in the ondansetron group as compared with the placebo group ($P=0.02$). In children with

gastroenteritis and dehydration, a single dose of oral ondansetron reduces vomiting and facilitates oral rehydration and may thus be well suited for use in the emergency department. *N Engl J Med.* 2006; 354: 1698.

Comments: Ondansetron has quickly established a prominent place in managing vomiting in our country among private practitioners, this trial will hopefully lead to an increased usage in the academic institutes as well.

Aspirin reduces gentamycin induced ototoxicity

□ Concurrent administration of aspirin therapy significantly reduces the risk for gentamycin-induced hearing loss, according to the results of a prospective, randomized, double-blind, placebo-controlled Chinese trial. The incidence of aminoglycoside-induced hearing loss averages 8% but the numbers may be higher in developing countries where aminoglycosides are frequently the only affordable antibiotics and are sold over the counter. For the study, investigators randomized 195 adult patients scheduled for 5 to 7 days of intravenous gentamycin therapy to receive 2 weeks of supplementation with 1 g of aspirin 3 times daily (n = 89) or to placebo (n = 106). Results at 5 to 7 weeks posttherapy showed that aspirin therapy significantly reduced the risk for ototoxicity, (3% vs 13%; P = .013). While aspirin shows promise for reducing the risk for aminoglycoside-induced ototoxicity, the authors conclude that further studies are needed to develop a prophylactic drug with fewer adverse effects and/or new and safer antibiotics. *N Engl J Med.* 2006; 354: 1856

Comments: Given the fact that aminoglycosides are a very commonly abused antibiotic in our country, this study surely has a lot of relevance, however caution is indicated

till further studies are conducted in this regard.

Preterm births may have reduce lung functions as adults

□ Subtle but possibly important abnormalities in lung function after preterm birth may persist into young adulthood, Dutch investigators report. This study tried to determine the long-term effects of prematurity on lung function (volumes, diffusing capacity) and exercise capacity in 42 individuals born at a gestational age of less than 32 weeks and/or a birth weight under 1,500 grams, who were followed for 19 years. Results were compared with 48 healthy adults born at term. Preterm birth was associated with significantly lower FEV1 (p < 0.001) and diffusing capacity (p = 0.003) compared with term birth. Subjects born preterm also had significantly lower exercise capacity (p < 0.001) relative to those born at term. The authors believe that all premature babies should participate in sports at an early age to probably improve the lung functions. *Am J Respir Crit Care Med* 2006; 173: 890.

Comments: Long term data about effects of prematurity is being steadily collected. This small study is another important milestone in this regards.

Proving Viagra works for PPHN

□ A proof-of-concept study of oral sildenafil (Viagra) in infants with persistent pulmonary hypertension (PPHN) was stopped early because of marked efficacy of active treatment over placebo. The study involved 13 full-term or near-term neonates, mean age of 25 hours, with severe PPHN and an oxygen index greater than 25. All infants were on mechanical ventilation and had failed conventional treatment, such as extracorporeal membrane oxygenation (ECMO). Seven infants received intragastric sildenafil solution 1 mg/kg, which could be increased to 2 mg/kg,

every 6 hours and six received placebo until oxygen index fell below 20 or oxygen index remained unchanged for 36 hours. Primary outcome was a drop in oxygen index. The study was intended to include more newborns, but it was stopped early when it became clear that survival rates with sildenafil were much higher than with placebo. Six of the seven infants on active treatment survived. In contrast, only one of six infants on placebo survived. The benefits outweigh the possible risks, if conventional treatment is failing. Although sildenafil was well-tolerated, there are potential problems with systemic inhibition of the phosphodiesterase inhibitor type 5 (PDE5) including a negative effect on the developing brain, on the gut and on the retina in preterm infants. Larger studies are being planned. *Pediatrics* 2006; 117: 1077.

Comments: It is unusual for a new medicine trial to be stopped because of high efficacy in saving lives, but that does seem to be the case with oral sildenafil in PPHN. This is more important in India since extremely hi-tech equipment needed to manage critically ill neonates is not easily available in most of our centres.

Early versus delayed cord clamping

□ Delayed cord clamping at birth reduces neonatal anemia, according to the results of a randomized trial. In 2 obstetrical units in Argentina, 276 neonates born at term without complications to mothers with uneventful pregnancies were randomized to cord clamping within the first 15 seconds (group 1), at 1 minute (group 2), or at 3 minutes (group 3) after birth. The prevalence of anemia, defined as hematocrit less than 45%, was significantly lower in groups 2 and 3 than in group 1. The prevalence of hematocrit greater than 65% was similar in group 1 (4.4%) and in group 2 (5.9%) but significantly higher in group 3 (14.1%)

than in group 1. Other neonatal outcomes and maternal postpartum hemorrhage were not significantly different in the 3 groups. The authors conclude that the advantages of umbilical cord clamping at least at 1 minute after birth could decrease the prevalence of iron-deficiency anemia in the first year of life, especially in populations with limited access to health care. *Pediatrics*. 2006; 117: e779

Comments: The cord clamping debate has been a long-standing one, however now more literature is supporting delayed clamping in otherwise healthy newborns since there is no increase in morbidity, with possibilities of significant benefits.

The fluid controversy

□ Isotonic saline (0.9% saline + 2.5% dextrose) is preferable to hypotonic saline (0.45% saline + 2.5% dextrose) for intravenous rehydration of children with gastroenteritis. In their prospective, randomized study of 102 children with gastroenteritis receiving IV fluids, hyponatremia was less likely to develop or persist if an isotonic saline rather than a hypotonic saline solution was used. The findings suggest that in children with gastroenteritis, the use of hypotonic fluids exacerbates the tendency to develop hyponatremia whereas the use of isotonic saline is protective. *Arch Dis Child* 2006; 91: 226.

Comments: Fine-tuning fluids for managing diarrhea can be extremely useful, and basic research in this field can still lead to surprising conclusions.

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