CLIPPINGS

Can we predict pneumococcal bacteremia in patients with severe community-acquired pneumonia? *(J Crit Care. 2013;28:970)*

This cohort study of 108 patients with severe community-acquired pneumonia (SCAP) admitted to the intensive care department of a university hospital in Portugal aimed to evaluate biomarkers for pneumococcal bacteremia in SCAP. Leucocytes, C-reactive protein (CRP), lactate, procalcitonin (PCT), d-dimer, brain-natriuretic-peptide (BNP), and cortisol were measured within 12 hours after the first antibiotic dose. Fifteen (14%) patients with bacteremic pneumococcal pneumonia (BPP) had significantly higher levels of CRP, PCT, BNP and lactate than in patients without BPP. The discriminatory power – evaluated by the area under the receiver operating characteristic curve (aROC) – for PCT was superior to lactate, BNP, and CRP. At a cutoff point of 17 ng/mL, PCT showed 87% sensitivity, 67% specificity, 30% positive predictive value and 97% negative predictive value of 97% for diagnosis of pneumococcal bacteremia. A PCT serum level lower than 17 ng/mL could identify patients with SCAP unlikely to have pneumococcal bacteremia.

Given the likely high morbidity and mortality of SCAP in India, it would be worthwhile to know which cases are likely to have bacteremia, and thus risk for serious complications. However, PCT is currently expensive, and not easily available in most Indian settings – limiting its usefulness in our context.

Higher vitamin-D levels in pregnancy could help babies become stronger *(J Clin Endocrinol Metab. 2014;99:1)*

Low vitamin-D status has been linked to reduced muscle strength in adults and children, but little is known about how its variation in antenatal period affects the progeny. The 678 women who took part in the study are part of the Southampton Women's Survey – one of the largest and best characterized such studies globally. In this study, vitamin-D levels were measured in 678 mothers in the later stages of pregnancy. At the age of 4 years, grip strength and muscle mass were measured in children. The study documented that higher levels of vitamin-D in the mother were associated with higher grip strength and higher muscle mass of the child.

If this greater muscle strength observed at 4 years of age tracks into adulthood, it may help to reduce the burden of illness associated with loss of muscle mass in old age.

Reduced atopic dermatitis risk in extremely preterm born infants *(Br J Dermatol. 2013;169:1257)*

It is not yet known whether the risk of developing atopic dermatitis (AD) is influenced by preterm birth. Moreover, risk of AD has not been assessed in a large sample of extremely preterm infants. The authors of this study investigated the relationship between gestational age (GA) and AD using data from two independent population-based cohort of 2329 preterm infants (479 extremely preterm). Lower proportion of children with in the extremely preterm group had AD compared with those born at a greater GA (2-year outcome: 13·3% for 24-28 weeks, 17·6% for 29-32 weeks, 21·8% for 33-34 weeks; 5-year outcome: 11% for 24-28 weeks, 21·5% for 29-32 weeks, 19·6% for 33-34 weeks). After adjusting for confounders, a lower GA (< 29 weeks) was significantly associated with decreased risk of AD.

At least there is some medical problem which extremely low birth weight babies are less likely to suffer as compared to their heavier peers!

Protection by BCG against tuberculosis: a systematic review of randomized controlled trials [*Clin Infect Dis. 2013;Dec 13. (Epub ahead of print)]*

Randomized trials assessing BCG vaccine protection against tuberculosis have widely varying results, for reasons that are not well understood. In this systematic review, the authors examined association of trial setting and design with BCG efficacy against pulmonary, and miliary or meningeal tuberculosis. They identified 18 trials reporting pulmonary tuberculosis, and 6 on miliary or meningeal tuberculosis. Univariable meta-regression indicated efficacy against pulmonary tuberculosis to be greatest in children stringently tuberculin tested, to try to exclude prior infection with *M. tuberculosis* or sensitisation to environmental mycobacteria. Protection was weaker in children not stringently tested and older individuals stringently or not-stringently tested. Protection was higher in trials further from the equator where environmental mycobacteria are less and with lower risk of diagnostic detection bias. There was no evidence that efficacy was associated with BCG strain. Protection against meningeal and miliary tuberculosis was also high in infants and children stringently tuberculin tested. Absence of prior M tuberculosis infection or sensitization with environmental mycobacteria is associated with higher efficacy of BCG against pulmonary tuberculosis and possibly against miliary and meningeal tuberculosis. Evaluations of new tuberculosis vaccines should account for the possibility that prior infection may mask or block their effects. Comment: Given the serious doubts that many of us have regarding BCG efficacy, this review sheds new and useful evidence which confirms that BCG at birth is probably most effective. Delay in BCG vaccination is likely to lead to decreased efficacy, and should be avoided.

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