Two for one influenza immunisation: mothers and infants

The World Health Organization recommends immunisation of pregnant women with inactivated influenza vaccine to reduce the risks associated with influenza infection in mothers and infants; however, the vaccine is not licensed for infants under 6 months of age.

This prospective blinded randomised controlled trial assessed the safety and immunogenicity of pneumococcal vaccine (control group) and the clinical efficacy of influenza vaccine on influenza illness in mothers and infants. The primary outcome in infants was the first episode of laboratory-confirmed influenza before 24 weeks of age. Other outcomes included fever >38°C with or without episodes of respiratory illness.

Three hundred and forty women in the third trimester of pregnancy were randomised. Most were followed through pregnancy and delivery until the infant was 24 weeks old; 172 mothers received the influenza vaccine and 168 the pneumococcal vaccine. There were 56 episodes of respiratory illness with fever in the maternal influenza group compared with 77 in the control group, reducing the incidence by 36%. Among the infants whose mothers received influenza vaccine (n = 159), six had laboratory-confirmed influenza compared with 16 (out of 157 infants) in the control group, reducing the incidence by 63%. There was a 29% reduction in the rate of infant respiratory illness with fever, 42% reduction in infant clinic visits for respiratory illness with fever and 49% reduction in clinician testing for influenza.

Maternal influenza vaccination prevents influenza infection in both the mother and infant. Five pregnant women would need to be vaccinated to prevent one case of respiratory illness and fever in a mother or infant. This system may be of benefit in regions with limited financial resources.

► Zaman K, Roy E, Arifeen SE, *et al*. Effectiveness of maternal influenza immunization in mothers and infants. *N Engl J Med* 2008;**359**:1555–64.

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LTA-T for malignant pleural effusions

Management of recurrent malignant pleural effusions is a common problem. At present the agent of choice is intrapleural talc, but it is not without side effects. Attention is therefore being directed toward strategies to target specific cellular mediators of the pleural inflammatory cascade. As there is fibrotic change in the pleural cavity as a result of infection, the authors of this study hypothesised that molecular mimics may be able to induce effective pleurodesis.

This phase I toxicity and dose escalation study was conducted in 14 patients with histologically-proven malignant pleural effusions. Patients were excluded if there was any sign of current infection. An indwelling pleural catheter was inserted, pleural fluid drained completely and any subsequent output recorded for 6 days. Intrapleural saline injection at day 0 served as a control. On day 7, patients received a single intrapleural injection of lipoteichoic acid T (LTA-T) according to a dose escalation schedule. From day 7 to 14, daily drainage volume was recorded and pleural fluid stored for further analysis. Recordings were made of adverse effects.

A therapeutic dosage of 750–1500 μg was identified based on detectable systemic inflammation at this dose. There was a decrease in pleural fluid production and permanent pleurodesis achieved after 1 month in 75% of eligible patients. Toxic effects were mild, there was no consistent side effect profile and the LTA-T side effect profile compared favourably with talc.

Further studies are needed, but LTA-T may provide a useful alternative to talc for pleurodesis in this setting.

► Rahman NM, Davies HE, Salzberg M, *et al*. Use of lipoteichoic acid T for pleurodesis in malignant pleural effusion: a phase I toxicity and dose-escalation study. *Lancet Oncol* 2008;**9**:946–52.

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Rhinitis predicts asthma

Asthma and allergic rhinitis are thought to be associated, but the exact relationship is not clear. This study investigated the onset of asthma in patients with allergic and non-allergic rhinitis, analysing follow-up data from the European Community Respiratory Health Survey (ECRHS).

Adults were randomly selected from responders to a questionnaire in ECRHS I. These individuals provided a blood sample for IgE measurements, underwent skin prick testing, lung function assessment and bronchial responsiveness challenge tests. A total of 6461 participants free of asthma at baseline constituted the study population in this analysis and were divided into four groups: atopy but no rhinitis (n = 704); non-allergic rhinitis (n = 1377); allergic rhinitis (n = 1217) and control (neither of above) (n = 3163).

During the 8.8 years of follow-up the cumulative incidence of asthma was higher in patients with allergic rhinitis and those with non-allergic rhinitis. The relative risk of asthma was 3.53 for those with allergic rhinitis and 2.71 for patients with non-allergic rhinitis (after controlling for baseline demographics). Associations between allergic rhinitis and asthma incidence were stronger in those sensitised to several allergens, and sensitisation to mites was associated independent of other allergens. Atopic patients without rhinitis did not have a significantly higher risk than controls of developing asthma.

The authors conclude that rhinitis, even in the absence of atopy, is a powerful predictor of adult onset asthma. Prevention of asthma through identification and management of risk factors, particularly in a preclinical phase of the disease, is a priority. This study opens interesting avenues for future investigations as treatment of allergic rhinitis may be effective in reducing the incidence of asthma.

► Shaaban R, Zureik M, Soussan D, *et al*. Rhinitis and onset of asthma: a longitudinal population-based study. *Lancet* 2008;**372**:1049–57.

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