JOURNAL CLUB

Economic evaluation of a pneumococcal vaccine in a high-risk population

This economic evaluation study was performed to estimate the cost effectiveness of a 13-valent pneumococcal conjugate vaccine against invasive pneumococcal disease in a high-risk population. Herd immunity has developed as a result of pneumococcal serotypes used in 7-valent pneumococcal conjugate vaccine in infants. Assuming a similar effect with 13-valent pneumococcal conjugate vaccine would mean a reduction in disease burden over time.

High-risk groups included those aged 2 years and older with chronic kidney, heart, liver or respiratory disease, splenic dysfunction, HIV infection or diabetes. It was assumed that the vaccine would have no effect in preventing non-bacteraemic pneumococcal pneumonia and vaccination of the high-risk group would start 2–3 years after the infant pneumococcal vaccination. A 23-valent polysaccharide vaccine was expected to continue on top of the high risk programme.

A cohort model was developed from 22 298 patients admitted to hospitals in England with invasive pneumococcal disease between April 2002 and March 2009. Cost, gains in life years, quality adjusted life years and incremental cost-effectiveness ratios were measured.

Using a threshold of £30 000 for a willingness to pay for quality adjusted life years gained, the incremental cost-effectiveness ratio was higher in all high-risk groups except patients with chronic liver disease. Cost-effectiveness would increase if the vaccine did protect against non-bacteraemic pneumococcal pneumonia or was introduced along with the infant vaccination programme or targeted towards a specific subgroup. It was concluded that the 13-valent conjugated pneumococcal vaccine programme is unlikely to be cost-effective in a high-risk group.

► Rozenbaum MH, van Hoek AJ, Fleming D, *et al*. Vaccination of risk groups in England using the 13 valent pneumococcal conjugate vaccine: economic analysis. *BMJ* 2012;345:e6879.

Sushil Agarwal

Correspondence to Dr Sushil Agarwal, ST7 – Respiratory Medicine, University Hospitals Coventry and Warwickshire NHS Trust, Coventry, Coventry CV2 2DX, UK; drsushilagarwal@yahoo.com

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