INAHTA Briefs

Issue 2010/158

Title **Routine Antenatal Anti-D Prophylaxis for Rhd-Negative Women: A Systematic Review and Economic Evaluation**

Agency **NETSCC, HTA, NIHR Evaluation and Trials Coordinating Centre**
Alpha House, University of Southampton Science Park, Southampton, SO16 7NS, United Kingdom;
Tel: +44 2380 595 586, Fax: +44 2380 595 639; hta@soton.ac.uk, www.hta.ac.uk

Reference Volume 13.10. ISBN 1366-5278. www.hta.ac.uk/project/1670.asp

Aim

To assess the clinical and cost effectiveness of routine antenatal anti-D prophylaxis (RAADP) for Rhesus D (RhD)-negative women.

Conclusions and results

RAADP reduces the incidence of sensitization and hence of hemolytic disease of the newborn (HDN). Clinical effectiveness searches identified 670 potentially relevant articles, of which 12 (relating to 8 studies) were included in the review. With one exception, no additional studies were identified in comparison with the previous report, and some of the clinical effectiveness studies in the 2002 review had to be excluded since they did not use currently licensed doses. Hence, 8 studies comparing RAADP with no prophylaxis were identified in the clinical effectiveness review, and 9 (including the 2001 assessment report itself) in the cost-effectiveness review. The studies of clinical efficacy were generally of poor quality and did not provide a basis for differentiating between regimens of RAADP. The best indication of the likely efficacy of a program of RAADP comes from two nonrandomized community-based studies. Their pooled results suggest that such a program may reduce the sensitization rate from 0.95% (95% CI 0.18–1.71) to 0.35% (95% CI 0.29–0.40). This gives an odds ratio for the risk of sensitization of 0.37 (95% CI 0.21–0.65) and an absolute reduction in risk of sensitization in RhD-negative mothers at risk (ie, carrying a RhD-positive child) of 0.6%. The identified studies suggest that RAADP has minimal adverse effects. Of the 9 studies in the cost-effectiveness review, only 2 described a model that could be applicable to the NHS. The economic model modified from the 2002 appraisal suggests that the cost per quality-adjusted life-year (QALY) gained of RAADP given to RhD-negative primigravidae versus no treatment is between 9000 pounds sterling (GBP) and GBP 15 000, and for RAADP given to all RhD-negative women rather than to RhD-negative primigravidae only is between GBP 20 000 and GBP 35 000 depending on the regimen. Sensitivity analysis suggests that the results are reasonably robust to changes in the assumptions within the model.

Recommendations

All of the evidence indicates that RAADP reduces the incidence of sensitization and hence of HDN. The economic model suggests that RAADP given to all RhD-negative pregnant women is likely to be considered cost effective at a threshold of around GBP 30 000 per QALY gained. The total cost of providing RAADP to RhD-negative primigravidae in England and Wales is estimated to be around GBP 1.8 to 3.1 million per year, depending on the regimen of RAADP used (excluding WinRho). This takes into account the cost of RAADP and its administration, the cost of management of sensitization, and the cost savings associated with avoiding HDN. The additional cost of providing RAADP to all RhD-negative pregnant women in England and Wales is estimated to be around GBP 2.0 to 3.5 million.

Methods

See link www.hta.ac.uk/project/1670.asp.

Further research/reviews required

Studies need to compare the efficacy of the different RAADP regimens. Issues relating to compliance and safety may also influence the efficacy of the different regimens of RAADP, and hence further research would be useful in these areas.

Written by Mrs Hazel Squires (nee Pilgrim), SCHARR, University of Sheffield, NETSCC, United Kingdom

ISSN 1654-501X