INAHTA Briefs

Issue 2011/030

Title **A Systematic Review and Economic Evaluation of the Use of Tumor Necrosis Factor-Alpha (TNF-A) Inhibitors, Adalimumab And Infliximab, for Crohn's Disease**

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 15.06. ISSN 1366-5278. www.hta.ac.uk/project/1652.asp

Aim

To review the evidence on the clinical and cost effectiveness of infliximab and adalimumab.

Conclusions and results

Based on 11 trials, evidence from both induction and maintenance trials indicated that both adalimumab and infliximab therapy were beneficial compared with placebo (standard care) in adults with moderate-to-severe CD and, for infliximab, in adults with fistulizing CD; results were statistically significant for some time points. Between 6% and 24% (adalimumab), and 21% and 44% (infliximab) more patients achieved remission with anti-TNF-A antibodies than with placebo in the induction trials. Between 24% and 29% (adalimumab), and 14% and 24% (infliximab) more patients achieved remission with anti-TNF-A antibodies in the 2 large maintenance trials at reported follow-up. In fistulizing CD, between 29% and 42% (induction trial) and 23% (maintenance trial) more patients achieved a >50% reduction in fistulas with infliximab than with placebo at reported follow-up. Results from maintenance trials were almost exclusively based on subgroups of responders. No direct evidence showed that responders were more likely to benefit from treatment than nonresponders in the longer term. Few differences were found between treatment and standard care arms for selected adverse events, though high proportions of scheduled crossovers resulted in a lack of a true placebo group in most of the maintenance trials. No published studies on the cost-effectiveness of adalimumab were identified. The 4 independently funded studies identified for infliximab suggested high cost-effectiveness ratios (all >50 000 pounds sterling [GBP]/quality-adjusted life-year [QALY] for nonfistulizing disease and all above GBP 100 000/QALY for fistulizing disease). A budget impact assessment suggested that total cost to the NHS in England and Wales for induction in severe disease only could range between GBP 17M and GBP 92M and for maintenance for 1 year between GBP 140M and GBP 200M. Findings from a de novo economic model were that for induction, both adalimumab and infliximab are cost effective (dominant relative to standard care) in managing severe CD, and adalimumab (but not infliximab) is cost effective for moderate CD, according to limits generally accepted by NICE. Based on the analysis presented here, neither drug is likely to be cost effective as maintenance therapy for moderate or severe disease. Most importantly, the analysis indicated that many patients would achieve remission under standard care and that the incidence of relapse among those in remission was such that maintenance therapy would have to show greater effectiveness than at present and/or be much less costly than it currently is to reach the levels of generally accepted cost effectiveness. Any future trials need to be designed to meet the particular challenges of measuring and quantifying benefit in this patient group.

Recommendations

See Executive Summary link www.hta.ac.uk/project/1652.asp.

Methods

See Executive Summary link www.hta.ac.uk/project/1652.asp.

Further research/reviews required

See Executive Summary link www.hta.ac.uk/project/1652.asp.

Written by Dr Catherine Meads, Barts and the London School of Medicine and Dentistry, NETSCC, United Kingdom