The clinical effectiveness and cost-effectiveness of abatacept, adalimumab, etanercept and tocilizumab for treating juvenile idiopathic arthritis: a systematic review and economic evaluation

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Declared competing interests of authors: none

Published April 2016
DOI: 10.3310/hta20340

Plain English summary

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Health Technology Assessment 2016; Vol. 20: No. 34
DOI: 10.3310/hta20340

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The term juvenile idiopathic arthritis (JIA) encompasses all forms of arthritis of unknown cause that start before 16 years of age and persist for > 6 weeks. Treatment includes disease-modifying antirheumatic drugs (DMARDs), of which methotrexate is most commonly used in the UK. Current preferred treatment includes newer drugs termed biologic DMARDs. We identified the most up-to-date clinical effectiveness and cost-effectiveness evidence for four biologic DMARDs, namely abatacept (Orencia®, Bristol-Myers Squibb), adalimumab (Humira®, AbbVie), etanercept (Enbrel®, Pfizer) and tocilizumab (RoActemra®, Roche). The evidence was assessed systematically to evaluate whether or not treatment with a biologic DMARD (with or without methotrexate) benefits patients with JIA, taking into account treatment costs and health.

One study comparing the biologic DMARD with a (non-active) placebo treatment was identified for each drug. With the exception of the etanercept study, the majority of patients also received methotrexate. Patients who received biologic DMARD treatment experienced significantly fewer disease flare ups than those patients given placebo. Biologic DMARD treatment also led to a greater level of response (e.g. better overall well-being). No studies directly compared the drugs with each other. A statistical method used to compare them indirectly suggested that the four biologic DMARDs are similarly effective, but these results must be treated with caution. The proportions of adverse events were generally similar between the biologic DMARD and placebo groups.

Costs and health benefits appear to be generally similar for the four biologic DMARDs. Biologic DMARDs may therefore be an effective therapy, but uncertainties remain owing to the lack of evidence from direct comparisons between biologic DMARDs.
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This report

The research reported in this issue of the journal was commissioned and funded by the HTA programme on behalf of NICE as project number 14/64/01. The protocol was agreed in December 2014. The assessment report began editorial review in July 2015 and was accepted for publication in October 2015. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors’ report and would like to thank the reviewers for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this report.

This report presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health.

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