

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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Plain English summary

The effectiveness of biologic drugs for treating juvenile idiopathic arthritis

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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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