DIACEREIN FOR OSTEOARTHRITIS

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A B S T R A C T

Background

Osteoarthritis (OA) is one of the most prevalent musculoskeletal diseases. Diacerein acts differently from traditional non-steroidal anti-inflammatory drugs (NSAIDs) which inhibit prostaglandin synthesis, leading to adverse gastrointestinal effects. It has been proposed that diacerein acts as a slow-acting, symptom-modifying and perhaps disease-structure modifying drug for OA.

Objective

To assess the effectiveness and safety of diacerein for treatment of OA in adults with peripheral or axial osteoarthritis according the American College of Rheumatology and/or EULAR diagnostic criteria.

Criteria for considering studies for this review

We searched MEDLINE (1966-2004), EMBASE (1980-2004), Cochrane Central Register of Controlled Trials (CENTRAL), The Cochrane Library, Issue 3, 2004, and LILACS(1982-2004) and hand searched reference lists of published articles. Pharmaceutical companies and authors of published articles were contacted. There was no language restriction.

Selection criteria

Randomized controlled trials (RCT) or quasi-RCTs of placebo-controlled and comparative studies of diacerein in adults with primary or secondary OA fulfilling the American College of Rheumatology (ACR) criteria were eligible for inclusion. The main criteria for exclusion was evidence of secondary disease.

Data collection and analysis

Data abstraction and quality assessment was performed independently by three investigators according to predetermined criteria and the results were compared to determine the degree of agreement. Quality evaluation was done using Cochrane Handbook Criteria, Jadad and Schultz scores. Continuous outcome measures were pooled using weighted mean differences (WMD). Dichotomous outcome measures were pooled using random effects model and results were expressed as relative risks (RR).

Main results

Collectively, the seven identified studies including 2069 participants demonstrated a small, consistent, beneficial effect of diacerein in the treatment of OA. When compared to placebo, pain on a visual analog scale (0-100 mm) was evaluated in 1228 participants and showed a statistically significant difference in favour of diacerein WMD -5.16 (95%CI -9.75, -0.57) with an absolute change of 5 points on the scale; but the heterogeneity analysis result was important (P=0.04). When analysed separately by hip OA and knee OA, no difference was detected. According to the Lequesne Impairment Index for function, 1006 participants evaluated did not have improvement in the whole group or in the subgroup analysis with homogeneity in all results (P>0.10). For hip OA, three studies showed a WMD -0.21 (95%CI -0.82, 0.40). For knee OA, two studies showed WMD -0.95 (95%CI -2.64, 0.74). The summary WMD was -0.29 (95%CI -0.87, 0.28). Two long-term studies, one evaluating hip OA and another evaluating knee OA,

analysed structural progression with radiographic measurements of joint space. In hip OA, there was statistical significant slowing of progression in contrast with knee OA that did not demonstrate this reduction. However, the overall effect was very different between studies (P=0.04 for hip OA and P= 0.85 for knee OA). The most frequent adverse event was diarrhea. 459 participants among 1083 participants that received diacerein (42%) were affected. 18% in the treatment group compared with 13% in the placebo group withdrew due to adverse events.

Authors' conclusions

There is 'gold' level evidence that diacerein has a small, consistent benefit in improvement in pain. Further research is necessary to confirm the short and long-term effectiveness and toxicity of diacerein therapy in OA.