

Efficacy of glucosamine plus diacerein versus monotherapy of glucosamine: a double-blind, parallel randomized clinical trial

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Abstract

Background: Patented crystalline glucosamine sulfate (pCGS) and diacerein monotherapy have been recommended for treatment of mild to moderate osteoarthritis (OA), but evidence of efficacy for combined treatments is lacking. Therefore, the aim of this study was to compare clinical outcomes (i.e., pain and Western Ontario and McMaster Universities Osteoarthritis Index [WOMAC] score) at 6 months as well as the safety profile of treatment with combined pCGS and diacerein versus pCGS alone.

Method: A double-blind, parallel randomized controlled superiority trial was conducted between August 2013 and August 2014 at Ramathibodi Hospital, Bangkok, Thailand. A total of 148 patients (74 patients in each group) was randomly allocated to receive pCGS plus diacerein or pCGS plus placebo daily. Adult patients with OA were eligible if they had a Kellgren-Lawrence grade of 2–3. The primary outcomes were visual analogue scale score (VAS) for pain and WOMAC subscores measured at 24 weeks after receiving treatment, using the intention-to-treat principle (nonresponder imputation).

Results: Among the 148 patients in the study, mean age and body mass index were 60 years and 28.1 kg/m², respectively. Mean VAS and minimal joint space width at baseline were 5.1 and 2.5 mm, respectively. The mean VAS values measured at 24 weeks were 2.97 and 2.88 in the pCGS plus diacerein and pCGS plus placebo groups, respectively. The estimated mean difference was 0.09 (95 % CI - 0.75 to 0.94), which was not statistically significant ($P = 0.710$). In addition, the mean WOMAC total, pain, function, and stiffness scores for both groups were not significantly different, with corresponding means of 48.59, 12.02, 32.74, and 3.85 for the pCGS plus diacerein group and 48.69, 11.76, 32.47, and 4.16 for the pCGS plus placebo group. The risk of diarrhea and dyspepsia was very similar between the two groups, with risk ratios of 1.03 (95 % CI 0.56-1.89) and 0.91 (95 % CI 0.43-1.92), respectively.

Conclusion: This study did not demonstrate that coadministration of diacerein with pCGS improves pain and WOMAC score compared with pCGS monotherapy in patients with mild to moderate OA of the knee.

Keywords: Glucosamine, Diacerein, Combined therapy, Monotherapy, Osteoarthritis, Knee

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