

CAHE JC Critically Appraised Article Summary

Journal Club Details

Date of submission	June 2008
Journal Club location	Masonic Homes Therapy Services
JC Facilitator	Sally Cropper

Clinical Scenario

Is there any difference in the efficacy of glucosamine chondroitin versus glucosamine alone in the management of arthritic pain?

Review Question/PICO/PACO

P: Patients with hip or knee osteoarthritis

I: Glucosamine chondroitin

C: Glucosamine

O: Pain

Article/Paper

Structural and Symptomatic Efficacy of Glucosamine and Chondroitin in Knee Osteoarthritis: A Comprehensive Meta-analysis

Richy F, Bruyere O, Ethgen O et al. *Arch Intern Med* 2003; 163:1514-1522.

Article Methodology: Systematic review

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By CAHE staff member: Lucylynn Lizarondo

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Ques No.	Yes	Can't Tell	No	Comments
1	✓			The systematic review stated a clearly focused question with the following considerations: Population: Patients with knee or hip osteoarthritis Intervention: Oral Glucosamine Sulfate and Chondroitin Sulfate Outcomes: Joint space narrowing, Lequesne Index, Western Ontario MacMaster University Osteoarthritis Index (WOMAC), visual analogue scale for pain, mobility, safety
2	✓			The authors explicitly reported inclusion of any randomised, placebo controlled clinical trial looking at the efficacy of oral glucosamine or chondroitin for hip or knee osteoarthritis. Randomised controlled trials remain to be the gold standard in providing evidence for the effectiveness of an intervention. Hence, inclusion of RCT is an appropriate method to answer the objective of this systematic review.
3	✓			The systematic literature search included MEDLINE and PREMEDLINE, BIOSIS Previews, HealthSTAR, EMBASE, Cochrane Library of Randomised Controlled Trials, Current Contents, EBM Reviews, and Internet searches. A manual search of the reference section of each of the article retrieved was likewise done. The authors did not have language limitation as well. Publication date inclusion was fairly comprehensive (1980-2002).
4	✓			A validated instrument was used by two independent reviewers to appraise the quality of the retrieved papers. The authors particularly examined the method of randomisation, blinding, reporting of patient withdrawals or drop outs. Differences in scoring were resolved through discussion
5	✓			The dichotomous and continuous data for the included studies were pooled in meta-analysis as appropriate in homogenous data. When heterogeneity was significant even after removing a trial which seemed to cause the heterogeneity, a random effects model was applied.



Ques No.	Yes	Can't Tell	No	Comments
6				<p>Results were presented in forrest plots, using standard mean difference for continuous data and relative risk for dichotomous data.</p> <p>Bottom line results:</p> <ul style="list-style-type: none"> • Long term administration of daily oral glucosamine sulphate at a minimal period of 3 years slows the degenerative process of the joint cartilage as shown by the joint space narrowing. Two studies, which used WOMAC as in outcome indicator, have shown the efficacy of glucosamine. • Comparable efficacies of glucosamine and chondroitin were found when tested against placebo, on the following outcomes: LI, VAS and VAS mobility. • Both glucosamine and chondroitin were well tolerated by patients.
7				Results were precise as shown by the narrow confidence intervals.
8		✓		Patient characteristics were not presented in detail and as such, it would be difficult to determine what type of patients would benefit from the same treatment. Whilst the review mentioned radiologic scores and body mass index of patients included in the trials, there was no sufficient data in terms of other diagnostic criteria for hip and knee osteoarthritis.
9	✓			All important outcomes have been considered. It is however, a limitation that cost-benefits of these services cannot be drawn.
10		✓		Whilst there is evidence to say that glucosamine and chondroitin are effective and well-tolerated for osteoarthritis, the exact characteristics of patients who will benefit from these supplements have not been clearly defined. Moreover, the specific dosage and duration for taking glucosamine and chondroitin before any benefits can be observed cannot be determined.