Author's response to reviews

Title: Is the presence of Modic changes associated with the outcomes of different treatments? A systematic critical review

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Author's response to reviews: see over
Dear Editor,

Thank you for the review of our manuscript. Our changes have been highlighted in the manuscript and our responses to the reviewers’ comments are included below. The reviewers’ comments are in normal text, and our responses are directly afterwards in italics and bold.

Reviewer 1:

“Minor revision: The flow chart is on page 24 instead of being with its title on page 18”

We will ask for this to be corrected. Figure 1 is uploaded separately and figure text is presented in the manuscript as instructed in “instructions to authors”. We have therefore no influence on which page it ends on. Figure text is placed in the manuscript according to template.

“Discretionary revision: Consider a few lines to emphasize the potential importance of stratifying patients in treatment groups.”

We have added a brief explanation text, as suggested by the Reviewer. See “Background”, p. 2 – page 3:

“Therefore, more knowledge on different subgrouping of patients in relation to indications for various treatment approaches would be very helpful, as it would improve the possibilities for a more targeted treatment approach.”

“Also, if your review has given you any insight for possible study design suggestions, that would be very useful.”

We have added a brief explanation text, as suggested by the Reviewer. See the “Discussion”, p. 7 – p. 8:

“The weaknesses identified in this review make it relevant to comment on the need for future studies to respect certain methodological criteria. Two types of study designs would be suitable. 1) The one arm prospective outcome study with internal control groups i.e. the presence/absence of MCs. 2) A better design is the randomised controlled trial (RCT). RCTs should be conducted and reported according to general recommendations (for example CONSORT statement). In order to study the predictive value of MCs it would be necessary to define its various types (such as type 1, type 2, and mixed). Also, obviously, the normal steps to avoid selection bias and bias in data interpretation must be taken.”

Reviewer 2:

“The authors should consider taking “systematic critical review” out of the title for the reason outlined in the next paragraph. Overall, only 6 studies were eligible for inclusion criteria. That essentially shows that this is not a well studied subject. That also makes this being a systematic review moot. The studies are quite heterogenous, with one lumbar epidural steroid injection study, 2 intradiscal steroid injection studies, one lumbar disc displacement study, one fusion surgery study, and one exercise therapy study. Further, none of the studies showed any significant improvement.”
The authors will strongly argue that these comments by reviewer 2 should be disregarded. When conducting a systematic critical literature review, some prehoc decisions are made in relation to search strategy, items to take into account, and acceptable level of quality being some of them. If the outcome of the search is such that only few articles are found and/or if the quality of articles is poor, the review process is not interrupted and the results are not considered irrelevant. On the contrary, such findings are indeed very relevant, as it shows that there is only little evidence available and (perhaps) that the evidence is unreliable. Previously, articles that failed to show anything tangible were often denied publication. The result of this was a hyper inflated view of the general level of evidence in medical science because of publication bias. Fortunately, such attitudes are today discouraged. As well as showing what we know about a particular issue, systematic reviews can also demonstrate where knowledge is lacking as for example the Cochrane review of bed rest for low back pain and sciatica (Hagen 2005 The updated Cochrane review of bed rest for low back pain and sciatica).

“The authors also have done a methodologic quality assessment with an instrument I am not familiar with. They have not quoted a reference. While it appears appropriate, the only comment I have is has this instrument been validated or utilized in other studies?”

The items used in our review were based on commonly accepted methodological considerations, available in research method textbooks. No specific checklist was available for this type of review. The types of checklist domains that we have chosen exist in for example, the Cochrane Handbook for Systematic Reviews of Interventions (Higgins 2011 Available from www.cochrane-handbook.org). However because not all their domains were relevant for our review we could not really use it as a reference. We have clarified the above in the manuscript, see “Method” section p. 5:

“No fixed set of generally accepted quality criteria were found that suited this type of study and therefore quality criteria were chosen in consideration of factors important for a systematic review of prediction of treatment outcome.”

Other changes to the manuscript
To clarify the search strategy we have added the search strategy as an appendix (Appendix 1). On request we have added minor changes to the format (Figure and Tables).

On the behalf of the research team,

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