Reviewer's report

Title: Assessment of nerve involvement in the lumbar spine: association between magnetic resonance imaging, physical examination and pain drawing findings

Version: 2 Date: 19 January 2009

Reviewer: Charlotte Leboeuf-Yde

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General comment:

This is a study into which considerable effort has been invested. Although a potentially very interesting and relevant question is being addressed, is MRI a too sensitive tool, i.e. does it identify also clinically irrelevant findings, the end result is a heavy manuscript and my enthusiasm declined whilst reading. I went to bed with a troubled mind, because the heaviness was not because of lack of clarity in writing or because the language was heavy and complicated. Quite the contrary. Upon awakening the reason stood clear to me. Please see below.

Major compulsory revision:

There are two clinical aspects that need to be studied. The MRI finding and the clinical assessment. However, it is not interesting to dissect these aspects into its components. No clinicians, who is right in his mind, would related to single items. Therefore I suggest that you do like this:

1) Include only the nerve "impingement" variables. Water in the disc for example appears irrelevant in relation to nerve involvement.

2) Have a clinician (blind to the MRI findings) interpret the pain drawing and the (very thorough) physical examination into a clinical conclusion: yes probable nerve involvement, possible nerve involvement, no nerve involvement. This should be done per spinal level.

If the clinician who did the original study has become unblinded, a new person, unfamiliar with the study, could easily interpret the written findings without the need to look at the patient in person.

3) Look at the associations between the two.

This approach would be clinically relevant, result in tables possible to interpret (the present ones are a too detailed, and produce an article that many would like to read. Furthermore, the results would make the readers surprised, if the end result is the same as the present individual subtests indicate.

Your study sample is rather smallish, so the fewer tests you do, the more comfortable I shall feel. Reducing the number of variables would ensure just that.
Additional comment: Also make sure that you tell already in the abstract that the two aspects of patient assessment were made blindly.

I am sorry to recommend such large changes to your article, but once you have recovered your senses, I think you will be able to see my point.

I hope to read the second version shortly.

Kind regards
Charlotte Leboeuf-Yde

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.