Reviewer's report

Title: Restoration of disk height through non-invasive spinal decompression is associated with decreased discogenic low back pain: a retrospective cohort study

Version: 1 Date: 2 February 2010

Reviewer: Michael Norberg

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Interesting work, but is it only the pain that have been evaluated: I would have been interested of seeing a functional evaluation, as done with for ex. the Roland-Morris or Oswestry questioner, since just pain evaluation is so limited, not covering other dimensions.

According the methods, I would have seen a little description of the motorized devise used in this paper, not just de reference to an article difficult to have access, if you want to know something about this devise.

Discretionary Revisions

Line 141: more patient characteristics description: mobility, force, strength.

Line 164-167: consummation of pain medication: try to quantify, but also to what sort of medication is used: traditional pain killers (paracetamol for ex.), Morphine /Tramadolol, corticoids, anti-depression drugs.

Dose the patients do other things? (Active training: musculation massages...) or is it excluded? Do they see chiropractors; osteopaths...

Line 174: according pain evaluation: how long time after the treatment period, was the VAS evaluation done?

Minor essential revisions

What about ethical committee, according the fact doing repeated CT-scans, in healthy individuals. I don't see any remark in the text

Line 138: There should be a remark concerning the age of the candidates, since the 30 patients had a medium age of 64 +/- 15 years (that says that they are older patients), so how with the young ones? What does this patient group do actively: are they still working (a have a doubt about that according the patient age)? There should be a remark according the diagnosis: what do they name a herniation, since they write about chronic low back pain, not irradiating pain, and in that case the herniation of a disc doesn't play any role, more de degen. disk disease. As they notice, it would be very interesting to see what is the long lasting effect of this treatment (with a randomized trial).

Line 206: missing ± (± 15) ... (±5)... (± 19)

Line 207: missing ± ()...

Line 209: ± (6.8)
Line 210: ± (7.6)
Line 211: ± (2.2)... (2.3...)
Line 212: ±(1.7)
Line 250: the success rate is not over 80%, but 76% (not bad at all, but not over...)
Line 255: not only the muscle that would influence, but also other problems according the population: static, degenerative disease.
Table 1: same remark as below according the ± for pain and disk height.
Table 2: same remark as Table 1 for “first visit” and “last visit”.
What is clinical significant in a such study? How much should the VAS go down, to clearly signify a good result? We have results for surgery with a reduction of 2 on the vAS scale as significant.

Questions
1. Is the question posed by the authors well defined? Yes
2. Are the methods appropriate and well described? Yes
3. Are the data sound? Yes
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes
5. Are the discussion and conclusions well balanced and adequately supported by the data? Yes
6. Are limitations of the work clearly stated? Yes
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes
8. Do the title and abstract accurately convey what has been found?
   Perhaps the term « non-invasive spinal decompression » could leave somone in doubt, I didn't understand in the beginning what it was about
9. Is the writing acceptable? Yes