Peer Review File
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Responses to Reviewer A

Comment 1: What does radical mean?
Reply 1: It meant surgical. I edited the text for clarity page 2 line 4.

Comment 2: NRS of what? Leg pain?
Reply 1: Yes, of the leg. I also edited the text on your advice page 2 line 14.

Comment 3: Introduction Line 54: Not everywhere patients are admitted at rheumatology department. Please add that this is the case in France.
Reply 3: Done: page 4, line 19.

Comment 4: Results: Line 117: just having a job?
Reply 4: Yes. It would have been interesting to specify the jobs including the carrying of heavy loads. However It is methodologically difficult to do so on a retrospective study Therefore we chose to assess whether the simple fact of being professionally active could have an impact.

Comment 5: Line 118; leg pain> 3 months?
Reply 5: Yes, modified page 5 line 21.

Comment 6: References: 4 and 26 are the same. Please check.
Reply 6: Thanks for noticing. This is a copy-paste mistake, corrected page 13 line 14

Responses to Reviewer B

Comment 1: (...) the completely erroneous notion that not requiring spinal surgery is equivalent to recovery
Reply 1: I couldn't agree more with this comment. By re-reading carefully, I actually realized that one sentence in the introduction was ambiguous and took the liberty of deleting it (page 3 line 21).

Comment 2: The missing data mentioned in the text but without giving any information about the extent and the type of the missing data.
(....)
There is no information on missing data, how many were missing and from which variables therefore it is not possible for the reader to judge whether the limitation of this is significant or not. Furthermore, it is possible that some patients ended having surgery in another hospital but I appreciate that only 12 patients were lost to follow-up.
Reply 2: Any retrospective study has missing data. In our study, we only had a few, allowing us to use multiple imputations in the statistical analysis. The extent can be assessed thanks to the percentage specified in parentheses in the tables.

Comment 3: There is a high number of patients with ‘double stays/hospitalizations’, these were excluded from the analysis, some information would be useful as to whether the re-hospitalization was for the same reason.
Reply 3: These duplicates are a consequence of the French coding system, which created two lines when I selected the files from LUHC Medical Information Department records, for patients who were hospitalized only once.
For example, one patient could be coded "M511 Lesion of a lumbar disc with radiculopathy" and also "M5438 Sciatica" which led to a double stay. Less than ten patients out of four hundred were hospitalized twice for the same symptomatology and if so, it's the first stay which was considered.
I modified the flow chart page 15 to specify that it was for the same reason. I can also delete the first line of the flow chart for more clarity.

Comment 4: In the introduction, it is mentioned that the percentage of recovery for sciatica in general is 80-90%. This is incorrect, recovery rates vary widely and it is very much dependent on the choice of outcome for capturing ‘recovery’. Reading the wider literature on the subject, using information from cohort and RCT studies, including primary and secondary/tertiary care populations, reported recovery rates vary between 46% and 75%, again depending on the choice of outcome.
Reply 4: I agree that reported recovery rates vary a lot among studies and the choice of outcome as "recovery".
The mention of this rate in the introduction seems questionable and irrelevant in the study of our population (in-patients), so I removed it (page 3 line 21).

Comment 5: In Table 1, it is reported that 347 (out of 405) had MRI/CT findings that tallied with the clinical picture. That means that only these 347 patients can be potential surgical candidates therefore including all 405 in any analysis is erroneous.
Reply 5: The main objective of our study was to assess the proportion of patients treated by surgery one year after hospitalization in a rheumatology department for uncomplicated disc-related sciatica. When the clinical examination is typical, we don't need cross-sectional images to offer medico-infiltrative care, x-ray is enough (according to French recommendations). Cross-sectional imaging is relevant but not necessary as part of our medical care. Including only patients who had a cross-sectional imagery would have led to bias, because we obviously ask for a CT or an MRI before directing the patient to a surgeon.

Comment 6: It is not clear which and how many variables were entered in the multivariable analysis. Current statistical practice requires all variables used in the univariable analysis to be included in the multivariable and not only those that were found to be statistically significant in the univariable. And this is because variables that were not statistically significant in the univariable testing may become statistically significant in the multivariable testing due to interaction with other variables.
Reply 6: Indeed, the effort of summarizing the tables required for a previous submission forced us to delete the data of which variables were entered in the multivariate analyses, which are nevertheless very important for the analysis of this work. Corrections have therefore been made in table 3 on page 18.
On the other hand, it was not possible to include all the univariate variables in the multivariate analysis, due to an excessive increase in the alpha risk. We discussed this at length with the statistical analysis team and decided to include only the data that seemed relevant, at the risk of missing out on certain data, as you rightly point out.

Comment 7: Below is an interesting and methodologically sound paper, which concludes that surgery is associated with better outcomes in severe sciatica.
Fjeld et al. Prognostic Factors for Persistent Leg-Pain in Patients Hospitalized With Acute Sciatica. Spine 2017, 42, 4, pE272-E279
Reply 7: Thank you for this sharing. This is very relevant, I add it in the discussion (page 10 line 22)

Comment 8: And a final comment about the interpretation of the post-hoc analysis of the SPORT trial. The correct interpretation is that outcomes are better for patients that have surgery early versus late amongst those that do have surgery, outcomes are also better for those that have conservative management early versus late amongst those that have conservative management, but those that have surgery either early or late have better outcomes compared with those that have conservative management either early or late.
Reply 8: Yes, I understood the same thing. Therefore if a patient requires surgery, it is preferable that it's carried out early. In my opinion, it is one of the roles of rheumatologists to know how to identify these patients in order to provide better guidance. Our study was precisely intended to better identify the patients who might ultimately get surgery, precisely to avoid medical wandering, and ultimately a worse outcome than if surgery had been performed earlier.