Author’s response to reviews

Title: Factors related to subjective satisfaction following microendoscopic foraminotomy for cervical radiculopathy

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Response to Alison Rushton’s (Editor) and Lucio Marinelli’s (Reviewer 2) Comments:

Thank you very much for your valuable recommendations. We have provided responses to each of your comments below.

Comment 1. What is meant by both groups? It needs to be explained that you will be dividing the participants into 2 groups. Please define clearly.

Response: To clarify why we divided the patients into two groups, we have added a sentence to the Methods section (page 7, lines 17-19) stating that “We divided the patients into a satisfied and unsatisfied group and a willing and unwilling group so that we could evaluate factors related to true subjective satisfaction following microendoscopic foraminotomy for CR.”
Comment 2. It is stated that ‘Correlation analysis between the response to the subjective satisfaction survey and the willingness to undergo the same operation was evaluated by Fisher’s exact test’. This sentence is unclear as it implies investigation of correlation and it is unclear what analyses the Fisher’s exact test is being used for. Please define clearly.

Response: To evaluate the relationship between the response to the subjective satisfaction survey and willingness to undergo the same operation if needed, a correlation analysis between the response to the subjective satisfaction survey and the willingness to undergo the same operation was performed using Fisher’s exact test. We have added a sentence about the purpose of the correlation analysis to the statistical methods section (page 8, lines 4-7).

Comment 3. Between-group differences in baseline characteristics were evaluated using Fisher’s exact test for categorical variables, and Student’s t-test for continuous variables. It is unclear why these two tests are being used. Specifically, what is the rationale for the Fisher’s exact test over chi squared and why a parametric t test?

Response: Thank you for your comment. Fisher’s Exact test is a test of significance that is used in place of a chi square test in 2 x 2 tables, especially in studies with a small sample size. We selected it because the expected value of each cell of the matrix was 5 or less. Furthermore, there are no outliers in the distribution of the data (n > 30). Thus, the central limit theorem can be applied to say that the data are normally distributed. For the above reasons, we believe that using Student’s t-test is not a problem.

Comment 4. The wording of the results section needs to be reviewed to be consistent with a refined data analysis section. It would be most clear to interpret the results of the Fisher’s exact test in terms of a ‘significant association’.

Response: We have corrected the wording of the results for Tables 5 and 6 (page 10, lines 1-6).

“There were significant associations between subjective satisfaction at 12 months after the operation and age (P = 0.0062), smoking status (P = 0.0456), preoperative NDI score (P = 0.0209), and NRS score for the arm (P = 0.0424). There were significant associations between the willingness to undergo the same operation if needed and preoperative NDI score (P = 0.0109), NRS score for the arm (P = 0.0379), and EQ-5D score (P = 0.0140) (Table 6).”

Comment 5. Please check tables 5 and 6 carefully for accuracy of reported p values, particularly when the value is 1.0000 as this appears incorrect.

Response: We have consulted a statistician. Fisher’s exact test leads, under a null hypothesis of independence, to a hypergeometric distribution of the numbers in the cells of the table. The p-value from the test is computed as if the margins of the table are fixed and could have a value of 1.0.