**Author’s response to reviews**

**Title:** Surgical management of sacral meningeal cysts by obstructing the communicating holes with muscle graft

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Dear editor and reviewers

Thanks for your work and suggestions, we have thoroughly read the comments and made corresponding discussion or changes. Please see below:

To Reviewer 1 (Ross C. Puffer)

Response to comment 1: This is an important question, which we did discuss in depth when we developed this technique. The key point of the obstruction was the elasticity of the muscle graft. The nerve root was covered by the muscle graft, which was stronger than the fat but softer than the string suture, and the sutures tied the muscle graft and the surrounding tissue instead of directly ligating the nerve root. Therefore, the obstruction could be achieved without hard and direct compression on the nerve root, which was a common problem in direct ligation techniques, and the constriction of the nerve root could be avoided. Besides, the success of obstruction could be verified by the absence of intra-operative cerebrospinal fluid flow and
postoperative cerebrospinal fluid leakage (indicated in the last paragraph in Surgical Technique section and Postoperative Care section).

Response to comment 2: Yet we have not encountered worsened radicular pain after surgery. If such a problem happened in the future, it needs to be evaluated individually according to the symptoms, signs and intraoperative procedures.

Response to comment 3: We agree that a video demonstrating the placement of the muscle and process for securing it in place would benefit a lot. Unfortunately, we do not have a proper video currently. We would pay attention to recording the process in future cases.

To Reviewer 2

Response to comment 1: In the anatomical perspective, it is rational to group symptoms in - S1 symptoms vs S23 disorders as suggested, if the aim is to evaluate the influence of the lesion and surgery on different locations. However, we intend to estimate the efficacy of the surgery on improving the symptoms and life quality. Therefore, we utilized a scoring system based on the symptoms. After all, the ultimate aim of the surgery is to relieve the symptoms and improve the patients’ life quality. Besides, a good scoring system should be useful in communication in the academic community. The Neurological Scoring System we used in the current study has been reported for over 20 years and has been utilized in over 60 studies. Using this scoring system would benefit in comparisons between different studies and in academic communications.

Response to comment 2: Thanks for your suggestion, we have toned down the conclusions. Please see the first sentence in the second paragraph in Background.

Other changes
1. Authors’ Information was added in the Declaration section.
2. Grammatical corrections throughout the manuscript, highlighted in the text.

Thanks again for your work and suggestions, if you had any further questions and suggestions, please do not hesitate to contact me.

Best Regards

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