

## POINT-BY-POINT RESPONSES TO THE REVIEWERS

### Reviewer Comments:

Reviewer #1:

**Scientific Quality:** Grade A (Excellent)

**Language Quality:** Grade A (Priority publishing)

**Conclusion:** Accept (High priority)

**Specific Comments to Authors:** Is there evidence based surgery data to help the surgeon for choosing the surgical modality to treat patients presenting SCM or spondylolisthesis asymptomatic or symptomatic.

**Response:** *Thanks for your kind comment and recognition! First of all, the patients suffered from low back pain, lower limb weakness and neurogenic intermittent claudication, and imaging combined with physical examination could confirm that the patient's responsible lesions are lumbar spondylolisthesis and thoracic ossification of ligamentum flavum. Considering the effect of strict conservative treatments was not satisfied and the patient's life quality was significantly influenced by the aggressive symptoms, the surgical treatment was demanded by the patient and her family with a strong desire for surgery. Secondly, the patient had years of tethered spinal cord secondary to asymptomatic spilt cord malformation (SCM). The evidences of surgical for asymptomatic SCM are controversial; some scholars contented that a preventive surgery, such as a filantectomy, was advantageous, while some argued a preventive surgery was not suitable for these patients and had a risk of bring new symptoms. However, few study with large sample size had reported on patients with degenerative lumbar diseases combined with SCM and only a few cases have been reported (Seen in Table 2). The key point is to reduce interference to the spinal cord while perform surgical treatment on the lumbar lesions. Moreover, the patient with a tethered spinal cord also had thoracic ossification of ligamentum flavum in addition to lumbar spondylolisthesis, which required certain surgical skills with insufficient experience based on literatures. After weighing the risks and potential benefits, a thoracolumbar combined surgery was performed with a sufficient preoperative planning and intraoperative preparation made, before that we invited neurosurgeon for making the treatment plan whose advice was that the tethered spinal cord should be not treated for it would cause cerebrospinal fluid leakage and other troubles such as infection. As a result, we hope sharing our treatment experience about this interesting case.*

Reviewer #2:

**Scientific Quality:** Grade C (Good)

**Language Quality:** Grade B (Minor language polishing)

**Conclusion:** Accept (General priority)

**Specific Comments to Authors:** Thank you for your submission. Your manuscript is well organized and follows a clear flow. Please see the following comments on how to further explain your data: I suggest that you explain Split cord malformation (SCM) and its type with a schematic figure in order to better understand. I suggest that a series of explanations be marked on the images in order to understand the first and second images. If there are pictures during surgery, I suggest adding these pictures to the manuscript. I suggest that the number of images is less but with higher quality and magnification.

**Response:** *Thanks for your recognition and valuable suggestions! We have given some explanation*

and made some modifications accordingly.

(1) It should be more visual to explain the types of SCM using a schematic figure; however, the characteristics and types of SCM has been illuminated by a number of previous literatures referred by our manuscript, of which a few similar schematic figures are provided. Additionally, the main purpose of this case report was to share our treatment experience on how to deal with thoracolumbar diseases combined with SCM; as a result, we spent more space on the treatment process.

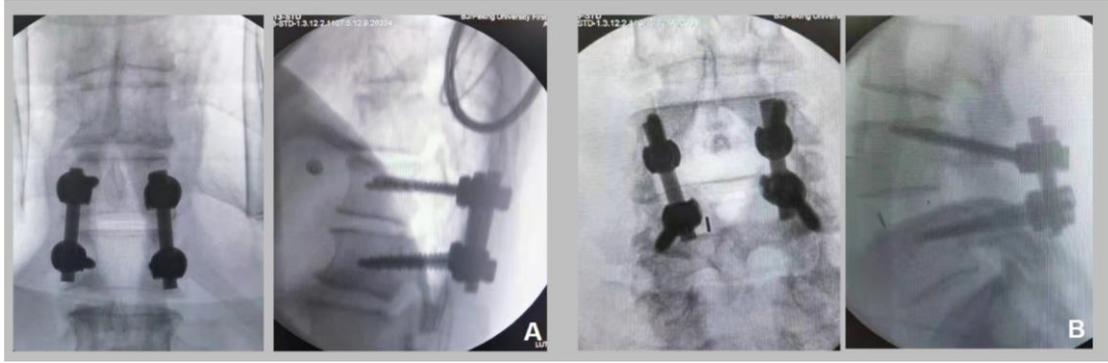
(2) We have added some marks on the images to help the reader better understand the specific pathological changes.

(3), we highly appreciated the suggestion that the pictures during the surgery should be added. However, it is a pity that we did not take a surgical field photo, because the SCM we reported was classified as type II and the dural sac was not opened during surgery, resulting in that the surgical field was not any different from the conventional fusion surgery. We took some photos about the removed ossification and the radiological images during the surgery. We had intended to add these photos when we initially prepared the first version of manuscript, but we found that the removed ossification tissue was not specific and that the radiological images during the surgery were almost same as the postoperative images but not as formal as the postoperative images, as a result we made a decision to delete these photos before we submitted the manuscript. Here, we provided these photos for your reference. (Fig.1 and Fig 2. below)

(4) For purpose of illuminating the decompression effect and the follow-up, we selected some typical and necessary images immediately after surgery and at each follow-up point, so we concern that the further removal of images would cause any puzzlement. As your valuable suggestion, we thought the quality of figures was very important for a manuscript, so we will provide these figures in higher quality in format of PPT when we submit the revised manuscript.



*Fig 1 The removed ossification tissue during surgery*



*Fig 2 The radiological photos during the surgery*