

Reviewer A

The authors describe the first reported case of spinal subdural hematoma after endoscopic decompression. The case report highlights the timeline of the development of the subdural hematoma in great detail and discusses its management and patient outcome. The perioperative imaging included was clearly labeled. In Figure 2, the fluoroscopic images detailing the localization of the proper disc space are unnecessary. The intraoperative images of both the durotomy and subarachnoid membrane are excellent.

In the discussion of the paper, the authors focus on possible mechanisms of the subdural hematoma. It seems, of the causes presented in the paper, the most likely cause was the epidural drain that was placed. Additional discussion may be helpful - in particular, is there literature on epidural drains and the development of subdural hematomas? Is there data on the placement of epidural drains in decompressive lumbar surgery?

Additionally, the final sentence in the abstract of the paper discusses the timing on surgical decompression for optimal neurological outcome. A sentence or two in the discussion explaining the existing data on optimal timing of decompression of subdural hematomas may be useful to the reader.

Comment 1: *In Figure 2, the fluoroscopic images detailing the localization of the proper disc space are unnecessary.*

Reply 1: We deleted the fluoroscopic images.

Changes in the text: We removed Figure 2-a,b. And we also modified manuscript and Figure legends of Figure 2. (see Page 4, line 17-18 / see Page 10, line 6-7)

Comment 2: *It seems, of the causes presented in the paper, the most likely cause was the epidural drain that was placed. Additional discussion may be helpful.*

Reply 2: Thank you for your key comments and suggestions. We searched for literature on epidural drains and SSH, as well as literature on the location of appropriate epidural drains. Unfortunately, however, no literature has been found directly related to these. Instead, there have been several reports of literature on the location of drain output or the amount of drain and epidural hematoma. However, these literatures are less relevant to this case. Therefore, only the contents of this part has been added to the manuscript.

Changes in the text

We added the aforementioned information to the manuscript. (see Page 6, line 11-13)

Comment 3: *A sentence or two in the discussion explaining the existing data on optimal timing of decompression of subdural hematomas may be useful to the reader.*

Reply 3: Thank you for reviewer's advice. However, we already described a sentence: "Emergency surgical decompression with hematoma evacuation is undisputed in SSH patients with neurological deficits.(4,5,7,9,15)" (see Page 6, line 14-15) According to these five literatures, the optimal timing of decompression of subdural hematomas with neurological deficit is as soon as possible. And we also already described a sentence: "In contrast, patients without neurological deficits can be treated by conservative management.(6,9)" (see Page 6,

line 15-16) It means that if there are no neurological deficits, conservative treatment is maintained, and if neurologic deficit occurs, emergent decompressive surgery should be performed. In conclusion, we think that the response to the reviewer's comments has already been described in the discussion.

Reviewer B

RE: Spinal Subdural Hematoma after Interlaminar Full-Endoscopic Decompression of Lumbar Spinal Stenosis: A Case Report and Literature Review

The authors describe the use of full-endoscopic decompression in a 68-year-old woman presented with bilateral radiating pain and neurological claudication due to lumbar spinal stenosis at the L4-5 level. They state that full-endoscopic interlaminar decompression was performed without intraoperative complications. Two days after the index surgery, the patient complained of severe radiating pain in her right leg with urinary retention. The radiologic evaluation showed a compressive subdural fluid collection at the index level. Open microscopic decompression was performed. No dural injury was observed. After durotomy, xanthochromic fluid gushed out at high pressure. They concluded that subdural hematoma after endoscopic decompression is a rare event and recommends urgent imaging and intervention if there is suspicion for neural compression in postoperative development of unexpected, progressive neurological deterioration regardless of intraoperative problems. The authors suggest early surgical decompression is necessary for optimal neurological recovery.

The case report is well-written. The limitations, including the possibility of unrecognized iatrogenic dural injury, are discussed. I recommend that the authors add a short paragraph positioning the interlaminar versus the transforaminal stenosis decompression since there is mounting evidence in the literature, including articles from the senior corresponding author's team, that the overall complication rate is higher than with the transforaminal stenosis decompression. This reviewer's survey research has confirmed that where many of the Korean surgeons were polled.

This discussion does not have to be lengthy. Still, it would elevate the authors' case report to a higher relevancy level moving forward since there is a noticeable paradigm shift going on where the rulebook on indications and contraindications for interlaminar full-endoscopic decompression surgery will likely get rewritten because of the mounting reports of complications.

I would be glad to review the manuscript again and recommend it for publication with these minor revisions.

Comment 1: *I recommend that the authors add a short paragraph positioning the interlaminar versus the transforaminal stenosis decompression since there is mounting evidence in the literature, including articles from the senior corresponding author's team, that the overall complication rate is higher than with the transforaminal stenosis decompression.*

Reply 1: Thank you for reviewer's advice. The lumbar spinal stenosis can be classified into

three categories according to pathological zone as follows: central stenosis, lateral recess stenosis and foraminal stenosis. For this case, the main lesions were central canal and lateral recess stenosis.(Ref. 1) To solve this problem, interlaminar approach is more advantageous than transforaminal approach. Because transforaminal approach is more favorable approach for the lesion of foraminal and lateral recess, it is inappropriate to discuss transforaminal approach for this patient. Of course, technical attention is required because the complication rate of dural tear or epidural hematoma is higher in interlaminar approach. In conclusion, we think it is unnecessary to add a discussion on this topic.

Ref.) 1. Ahn Y. Percutaneous endoscopic decompression for lumbar spinal stenosis. Expert review of medical devices 2014;11:605-16.

Reviewer C

The authors presented a case report describing subdural hematoma after endoscopic decompression for lumbar stenosis. This is an interesting case report. I would recommend to accept it after minor revisions.

1. The index surgery was at L4/5, but the second was performed at L5/S1. Why did the authors select L5/S1? Was L5 laminectomy done? These need to be clarified.

2. Literature review needs to be done more precisely. A Table showing previous literatures and their summary would be helpful for readers.

Comment 1: *Why did the authors select L5/S1?*

Comment 2: *Was L5 laminectomy done?*

Reply 1 & 2: Thank you for your key comments. According to Figure 4a, the subdural hematoma location was predominantly beneath the L5 lamina, so an additional L5 laminectomy was performed. Since there is a possibility of misunderstanding, we modified the expression L5 laminectomy instead of L5S1.

Changes in the text: We added the aforementioned information to the manuscript. (see Page 4, line 23-24)

Comment 3: *A Table showing previous literatures and their summary would be helpful for readers.*

Reply 3: We made a table of existing literature on SSH after lumbar surgery.

Changes in the text: We added the aforementioned table to the manuscript. (see Page 5, line 10 & Page 6, line 16 & Page 11)