Drill attachment failure : An intraoperative complication during Unilateral Laminectomy for Bilateral Decompression

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Introduction

Severe lumbar spinal stenosis is usually treated by several different surgery techniques. Unilateral laminectomy for bilateral decompression(ULBD) by unilateral biportal endoscopic(UBE) spine surgery is one of them. It is minimal invasive spine surgery and very effective for decompression of spinal canal. During the surgery, we use many surgical instrument. Therefore, the state of the surgical instrument must always be intact and must be care not to broken. Here, we had an experience with the drill failure during surgery and report in this case.

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Meterials and Methods

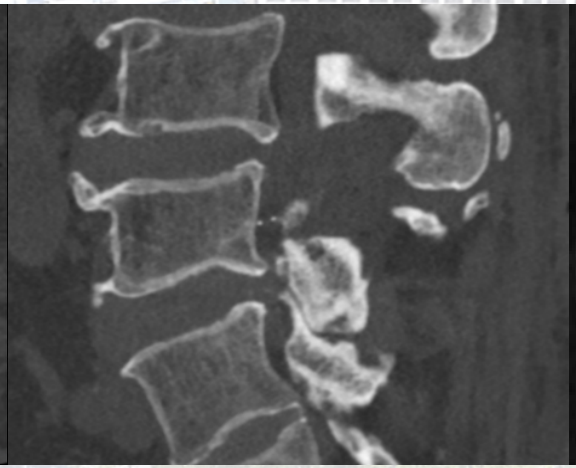
A 64-years-old man was admitted for back pain with right leg radiating pain and magnetic resonance image was showed L2-3-4 spinal stenosis with ligament flavum thickening. L2-3-4 ULBD by UBE was planned.

There are severe spinal stenosis on both L2-3 and L3-4 level in MRI T2 sagittal and axial image

Results

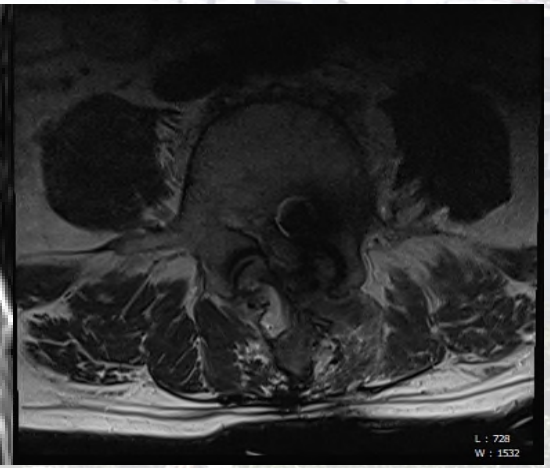
During surgery, unexpectedly the attachment part of drill was brokened. But in operation field, any separated parts of drill was not seen. We continued and finished surgery with new intact drill instrument. After surgery, 2 small metal materials were comfirmed on Lt L4 spinal canal in MRI and CT. When researching the broken attachment, we expect they maybe 2 bearing balls from brokened attachment of drill.

L4 axial view, CT



L4 sagittal view, CT

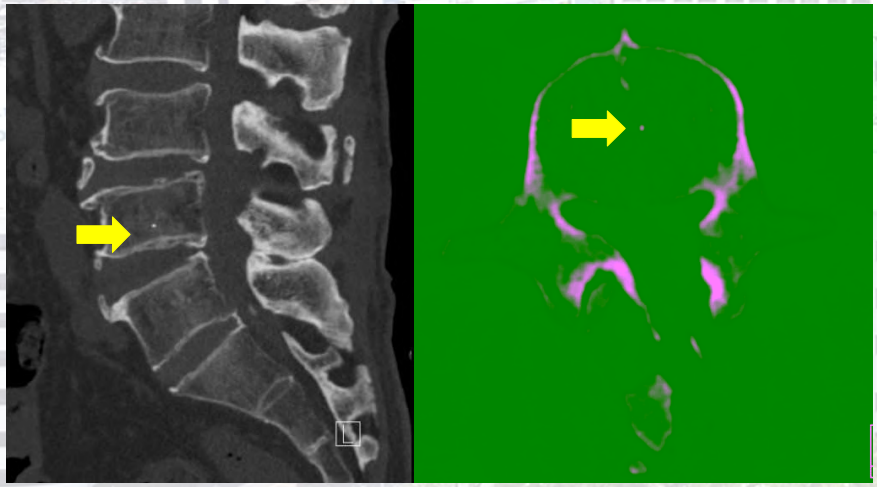
L4 sagittal view, T2



L4 axial view, T2

Results

We tried to remove that materials with same operation approach. But, the materials are too small to find and we failed to remove. Full saline irrigation was performed and operation was finished. After operation, 1 metal material was remained in L4 vertebral body. The bearing ball is made of stainless steel. Finally we decided to make closed observation of patient's condition and no infection sign occurred after that.



CT image after re-operation was showed remained 1 metal material in L4 vertebral body (yellow arrow)

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Conclusion

Surgery through an endoscope has a narrow field of view and the size of instruments used for surgery is also small. It is the same as any other surgery, but in surgery using an endoscope, it is especially good to check the condition of surgical instruments before surgery and to check if there are any missing parts during and after surgery.