

Figure 1. The patient had an existing ankylosing change in her lumbar spine (A) and vertebral cleft in the L3 vertebral body (B, C) with posterior lamina fracture (C, D: yellow arrow).

Table 1. The Patient's Laboratory Data.

Time axis	injury, admission	2nd day	3rd day	4th day, changing hospital, operation	post operative day 2	day 3	1week	2week	3month
RBC ($\times 10^6/\text{ml}$)	3.17	2.12	2.37	2.02	3.3	3.54	3.65	4.03	3.63
Hb (g/dl)	9.8	7	7.4	6.3	10.2	10.9	11.3	12.4	11.8
Hct (%)	29.5	20.6	217	18.4	29	32	32.9	36.3	34
PLT ($\times 10^3/\text{ml}$)	165	112	84	81	58	91	216	257	216
Transfusion		RCC 2 units			RCC 6 units FFP 6 units				

RBC, red blood cell; Hb, hemoglobin; Hct, hematocrit; PLT, platelet; RCC, red cell concentrates; FFP, fresh frozen plasma.

days after the intervention, she got to be able to raise her upper body freely on the bed with stable vital signs. At eight days, she could sit in a wheelchair and was able to stand up and to walk 18 days post-intervention. She finally discharged with a T-cane two months after the injury. Her radiological examination showed stable bone fusion of the L3 vertebral body one year after the injury (Fig. 2(D)). The patient had a potential indication for spinal fusion surgery with instrumentation¹⁻³. However, we decided on conservative treatment because of her altered general condition and her family's request to avoid further invasive treatment. We asked her to wear a hard brace and prescribed careful rehabilitation, followed by constant radiological follow-up. She wore her brace for about six months post-discharge until she acquired radiological stability.

Osteoporotic vertebral fractures can occur from trivial events; sometimes, occult fractures cannot be detected by primary radiological assessments⁴. They can cause chronic back pain by pseudoarthrosis, spinal kyphosis, and scoliosis. These may also trigger other disturbances, including gastroesophageal reflux disease, which can significantly deteriorate the patients' daily living activities. Intravertebral aneurysm is very rare, with just a single case report⁵, defined as a nontraumatic rupture of the lumbar artery with a pseu-

doaneurysm in the vertebral body with a massive retroperitoneal hematoma treated by endovascular embolization. The current case indicates that the 3-column L3 vertebral body fracture caused the intervertebral cleft with spinal instability. This condition pinched the surrounding segmental vessels and caused the intravertebral pseudoaneurysm to bleed (Fig. 3). Considering another ankylosing spine pathology, we speculated that the capillary vessel injury at the intravertebral pseudoaneurysm caused progressing anemia.

In conclusion, the current case showed a rare pathology of progressive anemia due to the injured intravertebral pseudoaneurysm after a 3-column fracture in an osteoporotic patient with an ankylosing spine. Our radiological evaluation included contrast CT scan and angiography to detect and treat the bleeding pathology using an intravascular stent. If we find rapid progress of anemia in vertebral fracture patients with osteoporosis and ankylosed spinal disorder, immediate pathophysiological understanding and appropriate treatment is required, considering the possible vessel injury shown in the present case.

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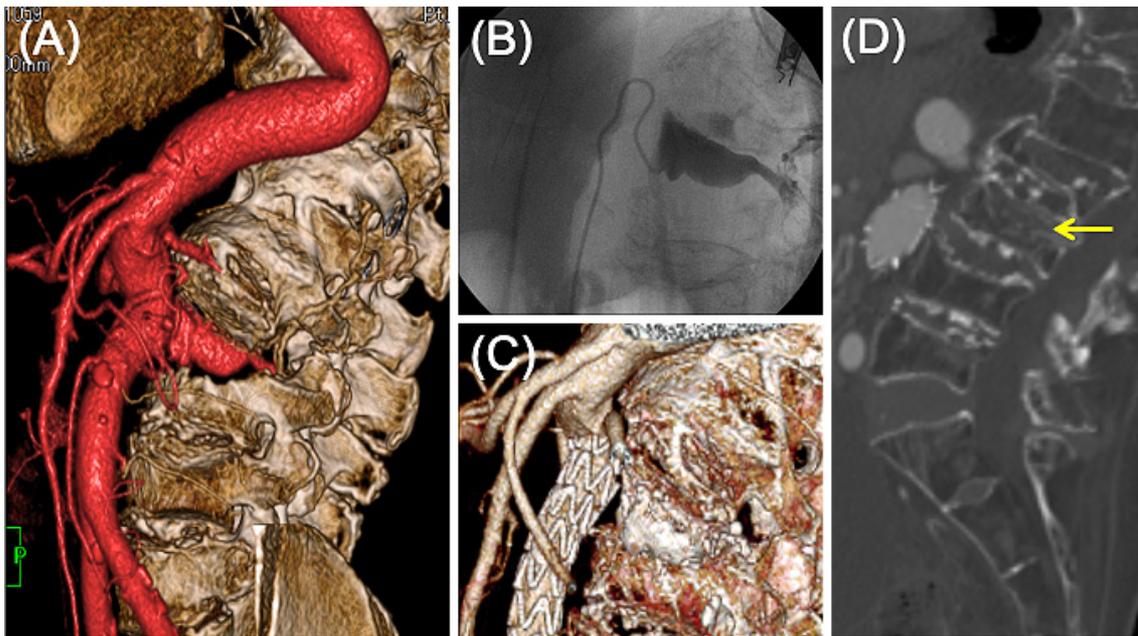


Figure 2. (A) Contrast-enhanced CT showed the aneurysm originated from the aorta located within the pre-existing L3 vertebral body, with no apparent contrast leakage. (B) The pseudoaneurysm’s shape matched the fractured L3 vertebral body. The left L3 segmental artery supplied the blood that formed the arteriovenous fistula with perivertebral veins. (C) An intravascular stent in the abdominal aorta. (D) The patient’s evaluation showed stable bone fusion of the L3 vertebral body one year after the injury (Arrow).

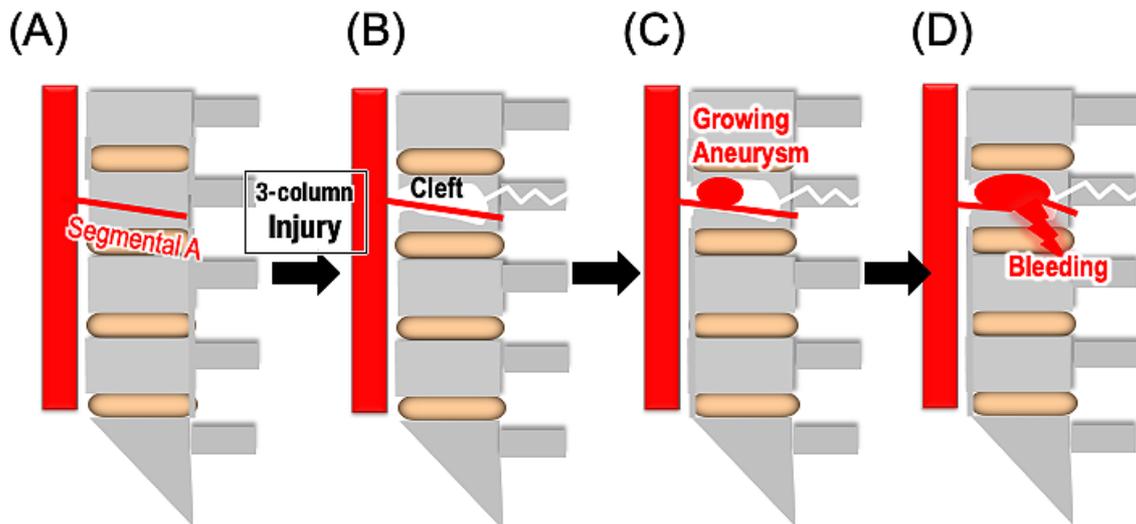


Figure 3. The pathological condition for the current case. (A-C) After the generation of the cleft due to the 3-column vertebral fracture, followed by an unstable spine, the segmental artery beside the growing cleft was impinged. The aneurysm progressed within two days post-injury. (D) Spinal instability due to the 3-column fracture caused the intravertebral pseudoaneurysm to bleed.

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the patient reported in this report.

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