

The Cutting Edge: Esophageal Perforation Secondary to Spinal Hardware

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CASE REPORT

Esophageal perforation by spinal hardware after anterior cervical spine surgery is rare, but a significant complication with an estimated incidence of 0.2%–1.15%.^{1,2} Esophageal perforation secondary to posterior approach seems even rarer and only sporadic cases exist in literature.³ An 81-year-old man presented to the hospital with hematemesis and epistaxis. His medical history was significant for recurrent chordoma of the C4–C7 vertebrae encasing the left vertebral artery, for which he had multiple posterior cervical surgeries including radical C5 corpectomy with mesh cage placement at C4–C6 and posterior fusion from C3 to T4 performed 6 months ago. He also received local radiation therapy with proton beam, and Cyber Knife therapy for tumor debulking. He underwent an upper endoscopy that revealed a 3 cm area in the cervical esophagus where the metal prosthesis of his cervical spine had eroded through the esophageal wall (Figure 1). Clotted blood was found in the area. Cranial, cervical, and thoracic computed tomography angiogram revealed spinal metallic implants perforating into the posterior wall of the esophagus with air loculated between the plate and screw fixation with no extravasation of blood from the area noted (Figure 2). Sternocleidomastoid flap usage is considered a gold standard for achieving and maintaining perforation closure.⁴ The patient was offered sternocleidomastoid flap usage followed by primary repair. However, the risk of intraoperative complication was considered very high, given the encasement of the left vertebral artery by the chordoma, a new aneurysmal dilation at C4 level and the degree of esophageal perforation by the hardware. The patient chose against the surgery and opted for comfort measures.

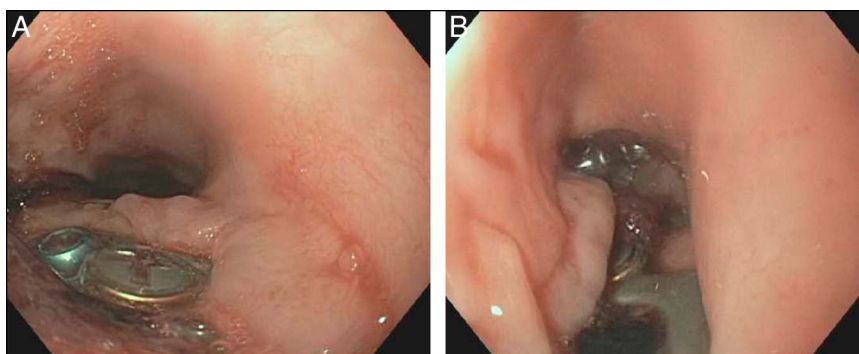


Figure 1. Upper endoscopy revealed the metal prosthesis of his cervical spine had eroded through the esophageal wall.



Figure 2. Cranial, cervical, and thoracic computed tomography angiogram revealed spinal metallic implants perforating into the posterior wall of the esophagus.

DISCLOSURES

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Informed consent was obtained for this case report.

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REFERENCES

1. Yee TJ, Swong K, Park P. Complications of anterior cervical spine surgery: A systematic review of the literature. *J Spine Surg* 2020;6:302–22.
2. Cheung JPY, Luk KDK. Complications of anterior and posterior cervical spine surgery. *Asian Spine J* 2016;10:385–400.
3. Sariyilmaz K, Ozkunt O, Sungur M, Dikici F, Domanic U. Esophageal perforation caused by a posterior pedicle screw. *J Pediatr Orthop* 2017;37:98–101.
4. Ahn SH, Lee SH, Kim ES, Eoh W. Successful repair of esophageal perforation after anterior cervical fusion for cervical spine fracture. *J Clin Neurosci* 2011;18:1374–80.

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