

A Rare Case of Upper Gastrointestinal Bleed Caused by Cervical Hardware Migration With Esophageal Perforation

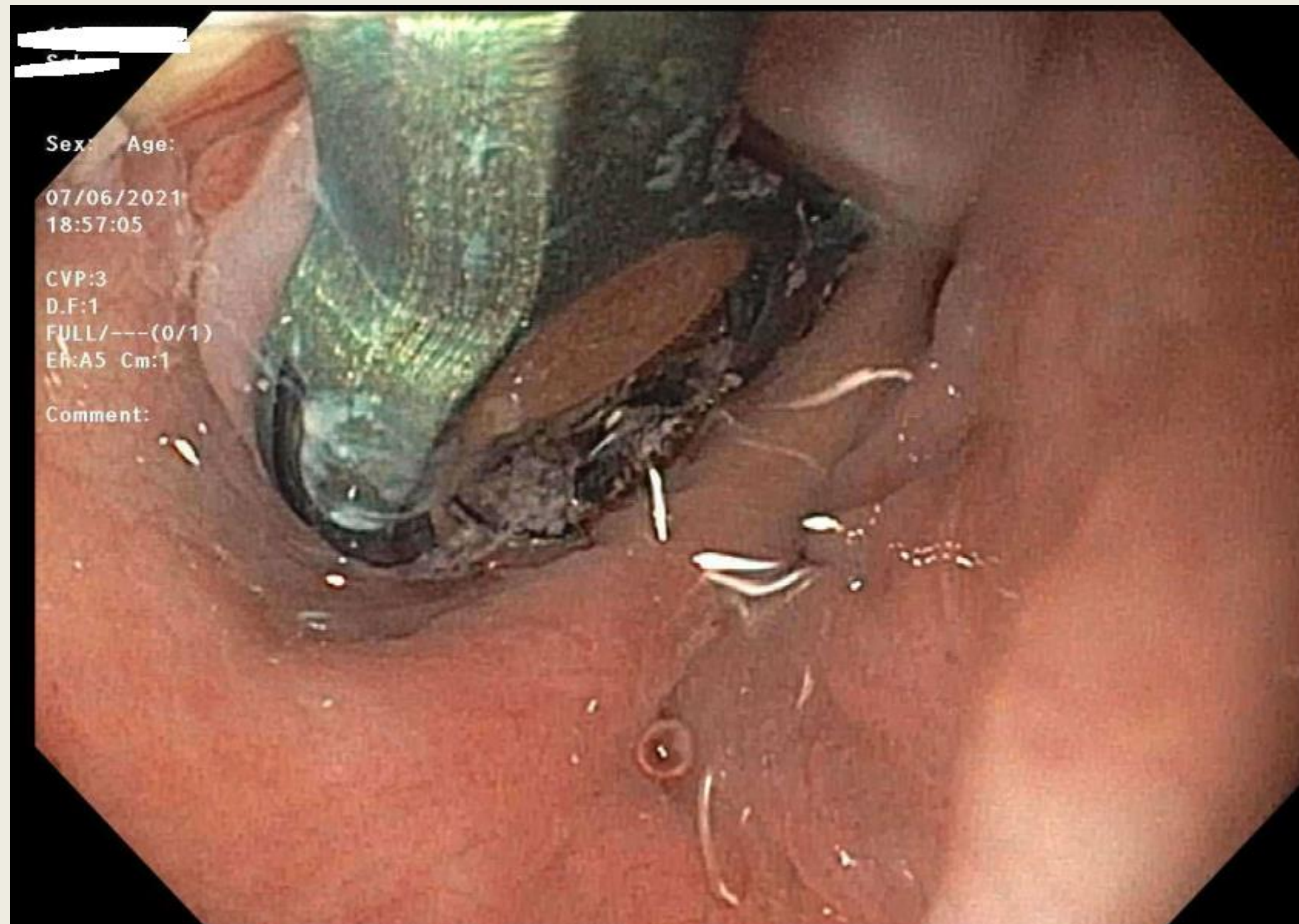
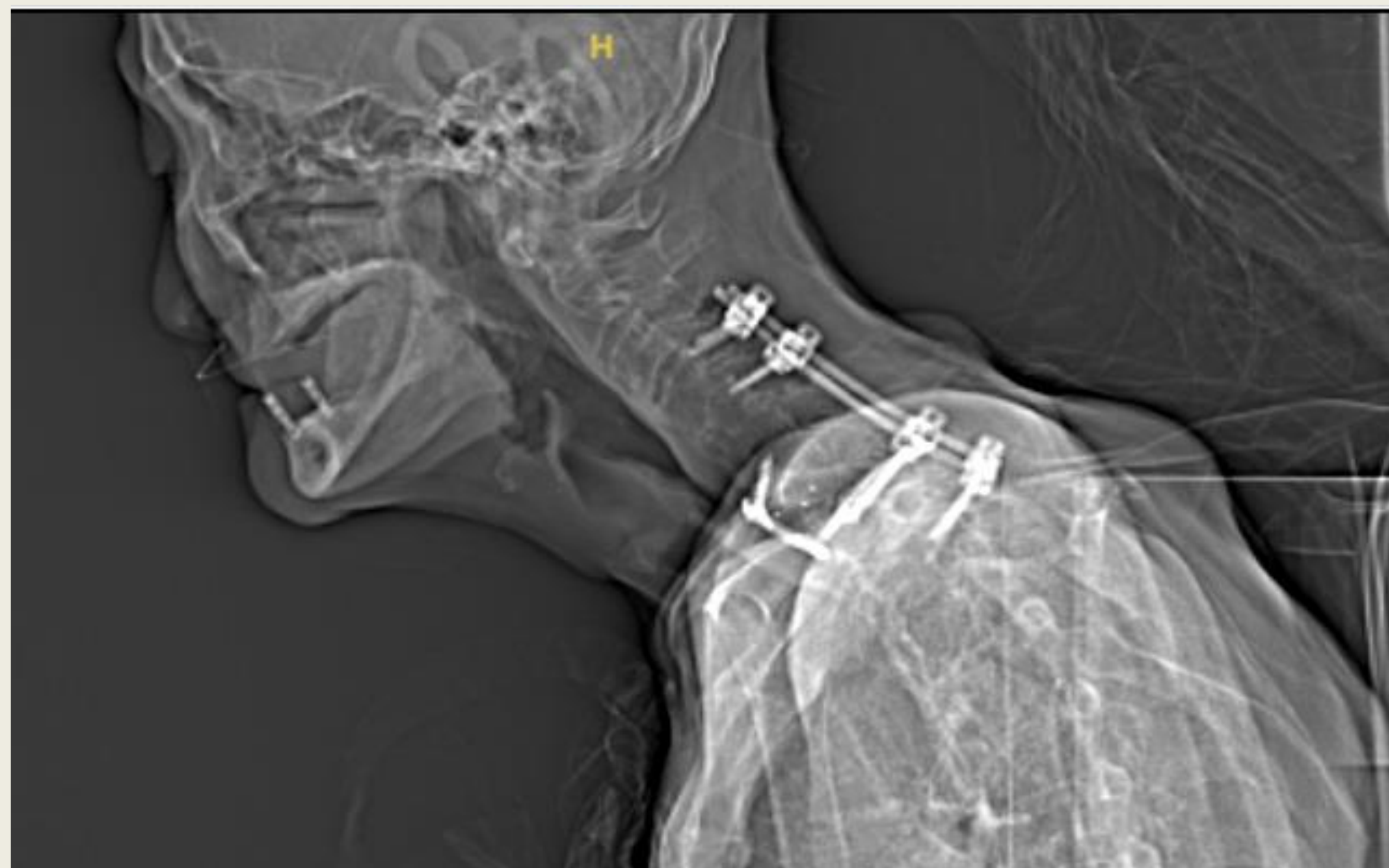
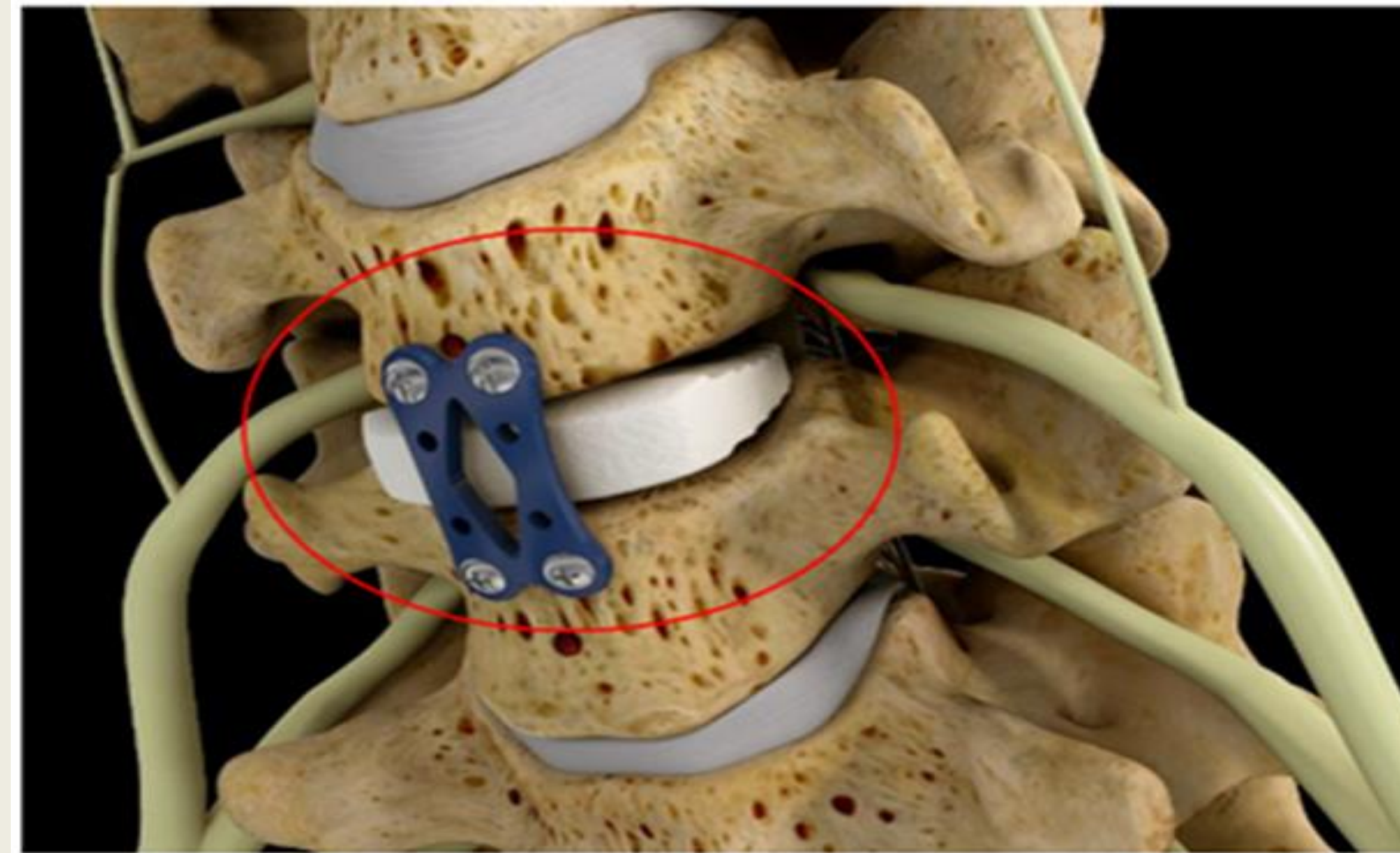
Omar Saab, MD¹, Marwah Algodí, MD²; Zhi Alan Cheng, MD³, Constantine Fisher, MD³

¹NewYork Presbyterian Queens Hospital- Department of Medicine, ²Ibn Al-Nafees Hospital, ³NewYork Presbyterian Queens Hospital- Gastroenterology Department.

INTRODUCTION

Anterior cervical Discectomy and Fusion (ACDF) is the most commonly used surgical intervention to achieve cervical spine decompression and fixation of osteopathic pathologies. Esophageal perforation is a rare complication of ACDF that can occur due to friction between the esophagus and the plate or screws. These complications are rare, but are associated with increased rates of infection and can be life-threatening. (1-4)

CT SCAN & EGD IMAGES



DISCUSSION

Risk factors for ACDF hardware failure and associated symptoms are not well documented. In our case, we suggest that the signs of upper GI bleeding should trigger the differential of esophagus perforation in patients with prior cervical surgery. These rare cases are considered very complex and may need a multidisciplinary approach involving CT surgery, vascular surgery, neurosurgery, and gastroenterology.

Most cases are treated conservatively, as the surgical intervention is complex and poses high intraoperative and post-operative risks. Dysphagia itself may not be enough to suggest esophageal perforation since post-ACDF dysphagia may be as high as 32.2%. Additionally, one study also showed loosening of fixation hardware was not associated with post-ACDF dysphagia.

CONCLUSIONS

Hardware loosening is a rare but serious complication after ACDF and should be considered in patients who present with Upper GI bleeding.

Early recognition of hardware failure is important as loosening may lead to vertebral fracture or dislocation, spinal cord compromise, other serious complication.

REFERENCES

1. Salis, G., B. Pittore, G. Balata, and C. Bozzo. "A Rare Case of Hypopharyngeal Screw Migration after Spine Stabilization with Plating." Edited by H.-S. Lin and E. Mevio. *Case Reports in Otolaryngology* 2013 (June 9, 2013): 475285. <https://doi.org/10.1155/2013/475285>.
2. Leaver N, Colby A, Appleton N, Vimalachandran D. Oesophageal perforation caused by screw displacement 16 months following anterior cervical spine fixation. *BMJ Case Rep.* 2015 Mar 20;2015:bcr2014207738. doi: 10.1136/bcr-2014-207738. PMID: 25796082; PMCID: PMC4371816.
3. Korovessis P, Repantis T, Vitsas V, Vardakastanis K. Cervical spondylodiscitis associated with oesophageal perforation: a rare complication after anterior cervical fusion. *Eur J Orthop Surg Traumatol.* 2013 Nov;23 Suppl 2:S159-63. doi: 10.1007/s00590-012-1092-y. Epub 2012 Oct 14. PMID: 23412223.
4. Gazzeri R, Tamorri M, Faiola A, Gazzeri G. Delayed migration of a screw into the gastrointestinal tract after anterior cervical spine plating. *Spine (Phila Pa 1976).* 2008 Apr 15;33(8):E268-71. doi: 10.1097/BRS.0b013e31816b8831. PMID: 18404097.

CONTACT

Omar Saab, MD
NewYork Presbyterian Queens Hospital.
Email: ons9006@nyp.org
Phone: (929) 468-6058

CASE PRESENTATION

An 84 year old male sustained a cervical fracture after head trauma secondary to unwitnessed fall. Initial management at an outside hospital included C6-C7 ACDF followed by C4-T2 posterior cervicothoracic fusion and instrumentation. Two months later, he developed dysphagia. A PEG was placed after a swallowing test indicated increased aspiration risk. The patient presented 2 years after the initial inciting incident with mild anemia, intermittent melena, and reported dark output from the PEG tube along with continued dysphagia without any associated neck discomfort or deterioration of neurologic or functional status.

Esophagogastroduodenoscopy (EGD) did not show any significant pathology in the stomach, but did show a foreign metal hardware (cervical plate) embedded in the wall of the hypopharynx and eroding out.

CT cervical spine showed a fracture of the right C6 anterior fusion screw with evidence of anterior displacement of the fusion plate with 4 to 5 mm gap between the plate and the anterior margin of C6. Disc spacer material appears to extend beyond the anterior margin of the C6-7 disc space.