Delayed Presentation of Esophageal Perforation Following Cervical Surgery

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Clinical Image

This is a 67-year-old female with a history of anterior C4-5 corpectomy with placement of vertebrectomy strut, C3-6 anterior fusion with plate, C3-6 laminectomy and posterior fusion for cervical stenosis with instability, who presented 2 years later with one day of dysphagia. Five months prior, she was diagnosed with pharyngitis, which had resolved with antibiotics. Barium swallow study at the time was negative for a leak. On current admission, CT and MRI were non-specific, demonstrating prevertebral edema. Bedside endoscopy did not reveal an esophageal injury. The patient was taken for removal of anterior hardware given her prior infection. There was no intra-operative evidence of esophageal perforation on visual inspection and after esophageal injection with methylene blue. Re-instrumentation was not necessary as bony fusion was satisfactory. The patient was extubated on post-operative day (POD) 3, at which time barium swallow showed an esophageal defect at the site of the removed hardware (Figure 1). The patient was taken back for primary repair of the defect, reinforced with a rotational sternocleidomastoid muscle flap. A tracheostomy was performed given proximity of the repair to the larynx. The tracheostomy was removed on POD6, with repeat barium swallow showing no further evidence of leak. The patient tolerated oral intake on POD7, and she was discharged home uneventfully on POD9.

Figure 1: Barium swallow study following negative surgical exploration and removal of anterior hardware shows extravasation of contrast from the cervical esophagus, tracking posteriorly into the prevertebral space.