Delayed pharyngoesophageal perforation following anterior cervical spine surgery: An incidental finding

Sir,
Anterior cervical spine surgery, although a well-established procedure for spondylotic disease, cervical myelopathy or radiculopathy, and cervical spine trauma, can lead to many potential complications such as infection, displacement, migration of implants, esophageal perforation, and airway complications.\[1\] We report a case of delayed pharyngoesophageal perforation detected accidently during intubation.

A 59-year-old man who previously had C5-6 discectomy and anterior cervical fusion done 2 years ago for cervical radiculopathy presented with a 3 weeks history of tingling and weakness in both the upper limbs. X-ray of neck revealed the implant used for fusion was displaced with partial extrusion of one of the screws [Figure 1]. His airway examination was normal and neck extension was not restricted. He was scheduled for removal of the implants due to implant failure. All his preoperative investigations were normal. He received pantoprazole, ondansetron, and glycopyrrolate as premedication before the surgery. In the operation room after instituting minimal mandatory monitoring, he was induced with propofol and fentanyl, and vecuronium was used to facilitate endotracheal intubation. His airway was secured with 8.5-mm ID flexometallic endotracheal tube. During laryngoscopy, anesthesiologist could see a screw jutting out of the posterior pharyngeal wall just above the cricopharyngeal opening. The surgeon was alerted about the same. A nasogastric tube was passed at surgeon’s request and esophagoscopy was done using a fiberoptic bronchoscope, which revealed posterior pharyngoesophageal perforation with extrusion of the plate and screw through the perforation [Figure 2]. The cervical implants were removed with primary closure of the pharyngoesophageal perforation. He had an uneventful postoperative recovery. Upon reevaluation postoperatively, he revealed that he had minimal pain and difficulty on swallowing for the past 6 months. These symptoms could be attributed to his underlying clinical condition.

Esophageal perforation following anterior cervical spine surgery is a relatively uncommon complication, but can be morbid or even fatal. Delayed esophageal perforations have been described occurring from weeks to years after anterior spinal surgery.\[2\] Several reports in literature highlight delayed esophageal perforation including asymptomatic extrusion of implants. There are reports of asymptomatic passage of implants through the gastrointestinal tract without any morbidity and its detection at a later date on routine radiography.\[3\] The most catastrophic event was described by Riew et al., who reported a case of plate rupture and graft migration on the third postoperative night causing airway compromise and resulting in death of the patient.\[4\]

Figure 1: X-ray cervical spine showing partial extrusion of implant and a loose screw

Figure 2: Posterior pharyngoesophageal perforation with extrusion of implants seen on esophagoscopy
Letters to the Editor

The clinical presentation of patients with esophageal perforation is extremely variable; patients may have painful cervical swelling, fever, dysphagia, odynophagia, or subcutaneous emphysema or be completely asymptomatic. The cardinal symptom of esophageal perforation is dysphagia. In patients with suspected perforation barium swallow, esophagoscopy and computed tomography or magnetic resonance imaging is indicated to locate the perforation.

Our patient did not give any history suggestive of esophageal perforation on preanesthetic evaluation, and hence, none of the above investigations were ordered. The loosening of the screws and backtracking of the implant on X-ray neck should have alerted us to evaluate the patient further to rule out esophageal perforation on initial examination.

The anesthesiologist should also be aware of high risk of aspiration from pooled secretions or retained food particles in the esophageal diverticulum that may sometimes have formed following anterior cervical spine surgeries. Rapid sequence induction and intubation may be safe option to prevent aspiration, which was not done in this case as there was no suggestive history. There is also a possibility of the implant or bone graft to dislodge into the trachea causing airway obstruction during induction or perioperatively, especially if they are loose.

The present case reiterates the need to elicit history of dysphagia and evaluate further during preanesthetic evaluation in patients who have previously undergone anterior cervical spine surgeries, and who later present for cervical spine or noncervical spine surgeries.

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