

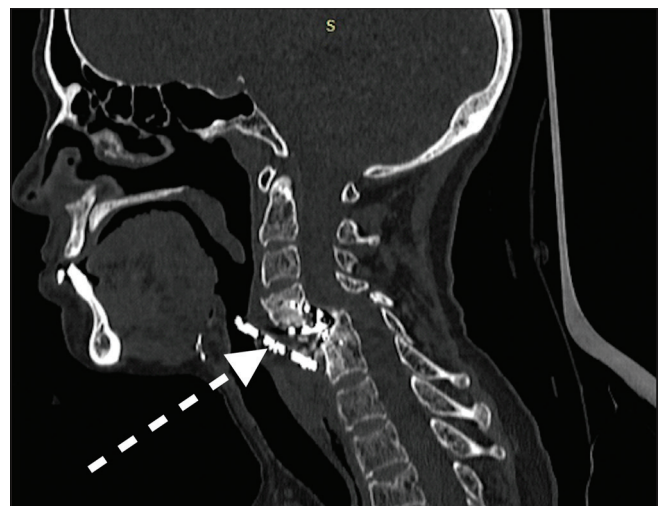
## Anticipated difficult airway caused by a cervical implant perforating through the posterior pharyngeal wall - A case study

Dear Editor,

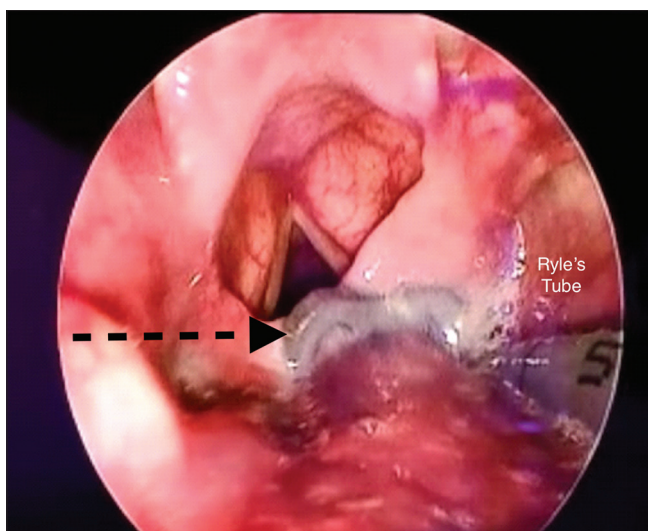
We report the case of a 61-year-old patient who had undergone anterior cervical instrumentation at C4-C6 two years ago for a fracture of the C5-C6 vertebra. Now he presented with worsening dysphagia that, on evaluation, was found to be due to migration of the implant into the posterior pharyngeal wall. Computed tomography scan of the head and neck suggested implant failure with anterior migration [Figure 1]. Examination of the airway revealed a mouth opening of 4 cm and modified Mallampati class II with a reduced range of neck movements. Endoscopy showed the implant perforating the posterior pharyngeal wall [Figure 2]. The patient was scheduled for revision surgery with implant removal under general anaesthesia. We kept a difficult airway cart including small-sized endotracheal tubes (size 6.5 and 5.5 mm ID), stylet, bougie, and a cricothyroidotomy set ready in case we failed to intubate this patient. Anaesthesia was induced with increasing sevoflurane concentrations while maintaining spontaneous respiration. After confirming the adequacy of bag-and-mask ventilation, intravenous 100 mg succinylcholine and 1.5 µg/kg of fentanyl were given. Using the McGrath video laryngoscope and maintaining manual in-line

stabilisation, tracheal intubation was attempted with a 7.5-mm ID reinforced endotracheal tube. There was obstruction to the passage of the endotracheal tube due to the implant impingement, so we tried a bougie which was passed successfully into the trachea. A 6.5-mm ID cuffed endotracheal tube was then guided over the bougie. After confirming the correct placement, 5 mg of intravenous vecuronium and positive pressure ventilation were instituted. The remaining course of the surgery and anaesthesia was uneventful.

Anterior cervical instrumentation is commonly performed in patients who have an unstable cervical spine. While this surgery's results are generally excellent, it is not without its share of complications,



**Figure 1:** Non-contrast computed tomography of the cervical spine showing the misplaced implant (arrow)



**Figure 2:** Endoscopic view showing the implant which has eroded the posterior pharyngeal wall (arrow)

such as bone graft failure, cerebrospinal fluid leakage, recurrent laryngeal nerve injury, quadriplegia, and even death. Oesophageal perforation is a relatively uncommon complication of this surgery, but it is one of the most dreaded. Iatrogenic perforation during surgery is less likely to cause it than postoperative perforation due to erosion by the implants.<sup>[1]</sup> Schoenhage *et al.*<sup>[2]</sup> reported on two patients with this particular complication, both of whom had an unanticipated difficult airway. Induction of anaesthesia in a patient with an unrecognised airway obstruction can lead to the feared 'cannot intubate, cannot oxygenate' scenario. Thus, thorough preoperative airway examination and imaging are indispensable.

Kanaya *et al.*<sup>[3]</sup> advocated for the use of three-dimensional computed tomography to visualise the airway preoperatively. Complete airway obstruction after induction precludes using an endotracheal tube to secure the airway, and the immediate plan in such a case would be to perform a tracheostomy. A video laryngoscope can be helpful in such cases since the entire team can simultaneously visualise the extent of airway obstruction.<sup>[4]</sup> Whatever be the method for airway management, spontaneous respiration must be maintained until the anaesthesiologist is confident of their ability to secure the airway.<sup>[2,5]</sup>

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#### Conflicts of interest

There are no conflicts of interest.

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