Unexpected Failure of Endotracheal intubation due to displaced anterior cervical bone graft.

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Abstract
The anterior approach to the cervical spine has been an attractive surgical option in the treatment of various cervical spine diseases. Bone graft is used for stabilisation with or without plates and screws. This operation is not without complications. Protrusion or extrusion of the bone graft is a known complication of this procedure. We report an unusual case of the extruded bone graft presenting with difficulty and failure of intubation for general anaesthetic for a totally unrelated procedure.
Case Report

A 67-year old lady underwent anterior cervical fusion in the year 1996. There was no immediate postoperative complications. In the last two years the patient began to have difficulty in swallowing solid food. Recently the patient was supposed to have an abdominal operation under general anaesthetic. Endotracheal intubation failed even after repeated attempts. It resulted in some bleeding and the procedure had to be abandoned. Later the patient was investigated by the ENT surgeons to rule out any space-occupying lesion in the upper airway. Endoscopic examination revealed no abnormal growth. Cervical spine x ray and barium swallow (Fig.1), clearly showed the displaced bone graft compressing the upper oesophagus. In view of her complaints and radiological findings she underwent removal of the extruded bone graft under fibreoptic intubation. The patient's dysphagia has improved considerably since the operation.

Fig. 1: Barium swallow film of the patient
Discussion

The first report of anterior cervical fusion was by Robinson & Smith in 1955 [6]. Cloward, in 1958 reported an anterior approach, which would utilise a graft for interbody fusion [2]. Although many patients have been treated with this approach for cervical spine disease, there are few complications associated with the procedure. Among the wide variety of complications dyspnoea and dysphagia are the principals complaints [10]. Cloward attributed dysphagia to oesophageal oedema from intra operative retraction. In Cloward’s series, most of his patients had dysphagia post operatively that was temporary and usually resolved within 48 hours [3]. Lunsford et al stated that dysphagia was common following the anterior surgical approach, and noted persistent dysphagia in 4.1% of his patients. He also stated that incomplete bone plug extrusion seemed to be the aetiology of dysphagia in 83% of these patients[5]. Smith & Bolesta detailed two patients with complications involving oesophageal perforations following screw migration [7]. Graft dislodgement was thought to occur with an incidence of 0.4% - 10% [4,5,9].

In another series of 497 patients who had anterior approach to the cervical spine hoarseness was present in 51% of the patients and dysphagia was present in 60% of the patients. Apart from that, one case of difficult intubation was also reported [11]. Similarly, cases of hypertrophic spurs of the anterior cervical vertebrae have been known to cause dysphagia along with once case of airway distress according to some authors [1,8].

After going through the literature we could not find another case which had failed intubation due to a displaced cervical bone graft. We consider it as a delayed presentation of the possible complications from a displaced cervical fusion bone graft. Unless careful history is taken and clinical evaluation performed these cases may be miss- diagnosed as malignancy of the upper airway/pharynx.
Displacement of the anterior cervical graft or an implant is not very uncommon. The same giving rise to mechanical obstruction to the airway and causing difficulty in intubation is not very common. It is the opinion of the authors that all patients who have undergone an anterior cervical operation with a graft or an implant insitu should have a detailed ENT examination including x-rays of the cervical spine before being posted for any elective operations or intubation.

References