Use of Glidescope and External Manipulation in Airway Management of an Unusual Retropharyngeal Lipoma

Sameer Sethi, Vikramjeet Arora

Neoplasms of retropharyngeal space are uncommon tumors that frequently remain asymptomatic until they reach a critical size that induces a mass effect on surrounding structures. Consequently, these neoplasms often remain undiagnosed until they are quite large, resulting in dysphagia or airway obstruction. The retropharyngeal lipoma is an extremely rare neoplasm. The induction of general anaesthesia in the presence of a large supraglottic mass carries a significant risk of complete airway obstruction. Careful preoperative assessment and formulation of appropriate plan of airway management is therefore vital in such cases.

CASE REPORT

A 35 year old was admitted to otolaryngology department with complaint of swelling on the right side of neck for 4 years which had increased rapidly in last 8 months. He had no respiratory complaints or difficulty in deglutition. He did not have any concomitant medical illness.

Physical examination on inspection revealed a 10x8 cms diffuse illdefined mass in right lower neck 3 cm below the angle of mandible till the clavicle inferiorly. Medially it was pushing the laryngeal framework to left side and posteriorly it was extending 2-3 cm behind the posterior border of sternocleidomastoid. His airway assessment was unremarkable with mouth opening of 4 cm, full range of neck movements and normal thyromental distance.

Bulge of posterolateral laryngopharynx was seen on indirect laryngoscopy, vocal cords could not be visualized. Fiberoptic laryngoscopy also revealed similar findings.

CECT was performed on the basis of patient's examination findings which demonstrated a fat density mass involving the retropharyngeal space and right parapharyngeal space reaching up to right carotid sheath (Fig.1). Larynx/pharyngeal mucosal space was narrowed and displaced anteriorly and towards the left (Fig.2). There was no evidence of infiltration of muscles of posterior pharyngeal wall or prevertebral muscles. To better define the radiographic extent and quality of this mass, an MRI was planned but could not be done because of back of affordability.

The patient was posted for excision of mass and admitted one day prior to formulate an appropriate anaesthetic plan in view of difficult airway.

The patient was counselled that he might require tracheostomy in case we encountered difficulty intubating him and an informed written consent obtained. Patient was premedicated with injection glycopyrrolate 0.2mg I.M. 45 minutes before shifting to operation theatre. In the operation theatre standard monitors were applied and difficult airway cart including fiberoptic bronchoscope and arrangements for emergency tracheostomy were kept ready. Initial plan was to use fibreoptic but we decided to intubate the patient in a different manner using Glidescope. We decided to go for awake intubation using glidescope. The airway was prepared with gargles and nebulisation of Lignocaine 4%. Glidescope was introduced in the usual manner. Once a good indirect view of glottis was obtained, additional lignocaine was administered. A posterolateral pharyngeal...
bulge was seen on the right side. Mass was pulled externally by an assistant which improved the glottis view considerably. Using a malleable stylet bent at 90° we were able to intubate the patient with 7.5mm size endotraheal tube while taking care to avoid the mass. Tube placement was confirmed by auscultation and capnography. Surgical access was very challenging. Mass was excised in toto with transverse cervical incision, with preservation of laryngopharyngeal complex, carotid sheath and important nerves. Trachea was extubated awake after return of protective airway reflexes. The patient’s postoperative course was uneventful. Histopathology was consistent with lipoma. No atypia or malignant features were present. Patient was discharged on 6th postoperative day.

**DISCUSSION**

Lipomas are one of the most common benign mesenchymal tumors in the body. Lipomas consist of adipose tissue cells separated by fibrous trabeculae and circumscribed by a delicate fibrous capsule. About 13% of lipomas occur in the head and neck; most of them are found in the subcutaneous tissues. Deep situated lipomas in this region are rare, a few are reported in the oral cavity, parotid gland, hypopharynx, larynx, nasopharynx or parapharyngeal space, but very rarely in the retropharyngeal space.

Most lipomas grow insidiously and are asymptomatic, however some attain huge dimensions causing pressure effects and cosmetic deformity. Complete surgical removal is the treatment of choice.

This reported case of lipoma is unusual in two respects first is its extent and presentation and second is its airway management. The lipoma was involving various spaces of the neck and even extending to the other side as seen in preoperative CT scan (Fig.3). Normally such a huge lipoma at this site is expected to cause airway obstruction or dysphagia or change in voice but in our case all of these symptoms were absent. Planning of airway management is important in such cases. The best option in such cases is awake fiberoptic intubation to prevent can't intubate can't ventilate scenario. Preoperative tracheostomy can also be done but it has got its own complications. Though we had fiberoptic bronchoscope in our setup, we managed the case in a different manner using external manipulation and glidescope. Literature reports a case wherein intubation was successful after several attempts only after digital manipulation of a pharyngeal mass. The Glidescope video laryngoscope is a novel system for tracheal intubation that utilizes a video camera embedded into a plastic laryngoscope blade. The blade is 18mm at its maximum width, and bends 60° at the midline. This configuration provides a view superior to that obtained with a conventional laryngoscope. Use of glidescope offers several other advantages for awake intubation over fiberoptic other than mentioned above like there are no restrictions on the type of ETT that can be placed, more rugged and less susceptible to damage, easily cleaned and finally ETT impinging on the arytenoid cartilages is not a problem with Glidescope.

Thus we experienced an asymptomatic huge lipoma involving various spaces of the neck with characteristic radiological findings and instead of fiberoptic laryngoscopy or tracheostomy we managed the case with Glidescope and manipulation of the mass.

**REFERENCES**

1. Senchenkov A, Werning JW, Staren ED. Radiographic assessment of the infiltrating retropharyngeal lipoma. Otolaryngol Head Neck Surg 2001; 125: 658-660.
2. Hariparsad M, Smurthwaite GJ. Management of a known difficult airway in a morbidly obese patient with gross supraglottic edema secondary to thyroid disease. Br J Anaesth 2002; 89 : 927-930.
3. Ramakantan R, Shah P. Anterior neck lipoma masquerading as an external laryngocoele. J Laryngol Otol 1989; 103: 1087-1088.
4. Shivkumar AM, Naik AS, Shetty DS, Yogesh BS. Lipoma of retropharyngeal space. Indian J Pediatr 2004; 71(3):271-272.
5. Rimmer J, Singh A, Irving C, Archer DJ, Evans PR. Asymptomatic oropharangeal lipoma complicating intubation. Journal of Laryngology and Otology 2005; 119: 483-485.
6. Derekoy FS, Fidan H, Fidan F, Artepe F, Kahveci O. Tonsillar lipoma causing difficult intubation. Kulak Burun Boqaz Ihtis Derq 2007; 17(6): 329-332.
7. Doyle J. Awake intubation using the Glidescope video laryngoscope: initial experience in four cases. Can J Anaesth 2004; 51(5): 520-521.