

GRANULAR CELL MYOBLASTOMA OF TONGUE: A RARE CAUSE OF UNANTICIPATED DIFFICULT INTUBATION

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Implication statement: We discuss the clinical presentation of a patient with granular cell myoblastoma and the management of an unanticipated difficult intubation with this rare condition. Literature review of similar cases of difficult intubations due to supraglottic masses was performed and the various methods of management have been enumerated.

Abstract

Introduction: Intubation with direct laryngoscopy may be impossible in 0.05%-0.35% patients due to an undetected supraglottic mass despite an apparently normal pre-operative airway assessment. We report a case of granular cell myoblastoma of the tongue, as a cause of an unanticipated impossible intubation.

Case report: A 55-year-old ASA III male weighing 75 Kg was taken up for emergency exploratory laparotomy with perforation peritonitis. On preoperative airway examination there was no indication of difficult intubation. After induction of anesthesia (rapid sequence with rocuronium) we performed direct laryngoscopy. There was a mass arising from the base of the tongue because of which no recognizable epiglottis or glottic structure could be identified. Despite repeat laryngoscopy, optimal external manipulation and direct laryngoscopy performed by an ENT surgeon, the airway could not be secured. As no fiberoptic laryngoscope was available, a surgical tracheostomy had to be performed.

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Introduction

Direct laryngoscopy and intubation may be impossible in 0.05%-0.35% of patients despite an apparently normal pre-operative airway assessment¹. Supraglottic masses such as lingual tonsils^{2, 3}, epiglottic cysts^{4,5} and vallecular cysts⁶ have been reported to be responsible for inability to visualize the glottis on laryngoscopy. We report a case of granular cell myoblastoma of the tongue which resulted in an unanticipated difficult intubation in a full stomach patient scheduled for an emergency laparotomy.

Case Report

A 55-year-old ASA grade III male patient, weighing 75 kg was taken up for emergency laparotomy with suspected perforation peritonitis. The patient was a known case of alcoholic liver cirrhosis with prolonged prothrombin time (Pt = 28/control = 13). Other investigations were within normal limits.

Airway examination revealed normal mouth opening with a modified Mallampatti class II oropharyngeal view. The thyromental, sternohyoid distances, mandibular length and range of neck movements, were all within normal limits. No external mass or distortion of airway was apparent externally. Rapid sequence induction with cricoid pressure was planned. No adventitious breath sounds could be heard even with the patient taking deep breaths during preoxygenation.

Anesthesia was induced with 250 mg IV thiopentone followed by 50 mg of rocuronium. On direct laryngoscopy with size 3 McIntosh blade, a soft friable brownish yellow mass of 2 X 3 cm was seen suspended from the base of the tongue. No identifiable epiglottis, glottic cartilage or chink could be seen. The glottis could not be visualized on second laryngoscopy by an experienced anesthesiologist.

There was no difficulty on mask ventilation while maintaining the cricoid pressure, with peak airway pressures of 15 cm of H₂O. Repeat attempts at laryngoscopy including the McCoy laryngoscope were unsuccessful despite optimal external laryngeal manipulation. A fiberoptic laryngoscope was not available at that time. An otolaryngologist, present in the operating room, did a direct laryngoscopy with a light

source, which also did not facilitate the visualization of any part of the epiglottis or glottis. As the patient was full stomach scheduled for an emergency surgery, had a deranged coagulation profile and an unidentifiable mass surgery, prolonged airway or mass manipulation was ruled out. After taking consent from the next of kin, an emergency tracheostomy was performed. Tracheal suctioning showed no evidence of aspiration.

Repeat direct laryngoscopy by the otolaryngologist and attempt to circumvent the mass resulted in it accidentally getting sheared off. Minimal bleeding was controlled with packing. The subsequent glottic view was Cormack Lehane grade II.

Surgery was uneventful. The chest skiagram done on the first postoperative day was found to be normal. Even on retrospective questioning, the patient denied any symptoms including difficulty in swallowing. Postoperatively, patient developed sepsis and disseminated intravascular coagulopathy. He expired on the 10th post operative day.

Discussion

Myoblastoma is a rare tumour of unclear etiology and histogenic origin which was first described by Abrikossoff in 1926⁷. It occurs most frequently in subcutaneous tissues, tongue, skin, breasts and skeletal muscles. More than 50% of the lesions are situated in the oral cavity and 35% in the tongue. Most often, it occurs between 20-50 years of age. The incidence is equal in both sexes, and it is more frequently found in the black race. The tumour has a characteristic slow growth and generally in the intraoral tissues it never grows larger than 0.5 cm in diameter intraorally. In extra-oral tissues it never grows larger than 2 cm⁸. It usually forms a circumscribed painless mass. As the tumor is slow growing and painless with minimal effects on swallowing, breathing and speaking, patients frequently overlook it and diagnosis is usually made during some coincidental illness or on routine otolaryngological examination.

In a series of nine cases of pre-epiglottic cysts, three patients (33%) reported difficulty in swallowing, three (33%) had inspiratory stridor, one had vague symptoms and two patients (20%) had no symptoms at all⁹. Our patient had no symptom at all, even though

the tumor was larger than the usually reported size.

All bedside tests to assess ease of intubation could not predict difficult intubation in an asymptomatic patient with a supraglottic mass. Upon reviewing literature on supraglottic masses, especially myoblastomas, we realized that we should have pointedly asked the patient for history of difficulty in swallowing a symptom which could have given a clue about the presence of a supraglottic mass. Routine preoperative indirect laryngoscopy could also have helped in detecting such a masses.

In a study carried out to assess efficacy of preoperative tests for detecting difficult intubations Yanamoto et al found out a positive predictive value of 31% for indirect laryngoscopy compared with 5.9% for the Wilson risk sum and 2.2% for the Mallampati test¹⁰.

Various methods have been used for the management of unanticipated difficult intubation due to supraglottic masses. In a report of six cases of vallecular cyst, Cheng et al successfully managed two cases with right and left paraglossal laryngoscopy.¹¹ Kamble et al successfully intubated the trachea by manipulation of the cyst with a styletted endotracheal tube⁶. In our patient, we feared that manipulation of the pedunculated friable tumor may cause it to break and slip into the trachea, leading to airway obstruction. As our patient was full stomach, prolonged laryngoscopy and mass manipulation was not done.

Aspiration of a preepiglottic and vallecular cyst followed by successful endotracheal intubation has been also been done^{9,11}. The external appearance of the mass in our patient was not suggestive of a cyst, so aspiration was not attempted.

Fibreoptic intubation is the most effective technique in an unanticipated difficult intubation. In an anesthetized full stomach patient however, this technique may be as difficult as direct laryngoscopy especially in an unprepared emergency at night². In addition, as advancement of the endotracheal tube over the fiberoptic scope is blind, we feared it could impact on the pedunculated tumour and cause it to shear off and migrate down the tracheobronchial tree.

Therefore securing the airway by performing a surgical tracheostomy was considered the safest option in this patient. In conclusion we would like to emphasize that during airway assessment, pointed questions should be asked about any difficulty in swallowing, as one third of patients with painless supraglottic masses may provide such a history. Though various airway management devices, such as laryngeal mask airways, are available to deal with difficult intubation in patients with no anatomical distortion of the airway, none could have been safely used in our patient. Therefore indirect laryngoscopy which has better positive predictive value in the detection of such masses, should be incorporated as routine preoperative airway assessment by anesthesiologists.

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