

# Anaesthetic Considerations in Macroglossia Due to Haemangioma of the Tongue: A Case Report

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## ABSTRACT

A difficult airway in emergency settings poses a challenge to the attending anaesthesiologist. Fibre optic intubation can be a valuable option in such a scenario. There are very few reports in the literature about airway management in adults who are complicated by haemangioma of the tongue.

We are describing here, our experience of a 64 year old man who presented with acute intestinal obstruction with macroglossia which was secondary to haemangioma of the tongue with cervical spondylosis. We emphasize the importance of attention to a difficult intubation and airway management by using the fibre optic technique.

**Key Words:** Haemangioma, Bronchoscopes, Airway management, Macroglossia

## INTRODUCTION

Airway management is a fundamental practice of anaesthesia and tracheal intubation is frequently required to ensure adequate airway control. Fibre optic techniques represent a dramatic advance in the management of the difficult intubation. The attending anaesthesiologist faces a challenge in managing a difficult airway in emergency situations. The traditional rapid sequence intubation cannot be followed in patients with a full stomach with a difficult airway.

There are very few reports on airway management in adults who are complicated by haemangioma of the tongue in the emergency setting. Haemangiomas comprise of 3.4% of all the oral lesions in adults. Haemangiomas are known to be associated with Rendu-Osler-Weber syndrome, Sturge-Weber-Dimitri syndrome, Kasabach-Merritt syndrome, Maffucci syndrome, von Hippel-Lindau syndrome and Klippel-Trenaunay-Weber syndrome. We report here, a case of macroglossia which was secondary to haemangioma with cervical spondylosis for emergency laparotomy.

## CASE REPORT

A 64 year old male presented to the emergency room with an acute abdomen which was diagnosed as intestinal obstruction and was posted for emergency exploratory laparotomy. On pre-operative examination, he was found to be poorly nourished, underweight, anxious and apprehensive. His oral cavity examination showed a 3 × 4 centimetre sized bluish coloured swelling at the lateral margin of the tongue, which was provisionally diagnosed as haemangioma of the tongue. There was no history of respiratory difficulty, trauma, pain or bleeding from the swelling. He had put on a cervical collar and his previous imaging reports were suggestive of cervical spondylosis. Mouth opening, interincisor gap and mallampatti grading could not be elicited due to the enlarged tongue. His vital parameters were within the normal limits. His systemic examination revealed no abnormalities [Table/Fig-1].

The investigations showed haemoglobin = 10.8 gms%, haematocrit = 38%, platelets = 2.25 lacks/mm<sup>3</sup>, bleeding time = 3min, clotting time = 5 min, serum electrolytes Na<sup>+</sup> = 137 meq/l, K<sup>+</sup> = 3.9 meq/

l, blood urea = 24mgs/dl, serum creatinine = 1.8 mgs/ dl and random blood sugar = 135gms/ dl. His ECG and chest X-rays were normal. A nasogastric tube and a urinary catheter were in situ. A written informed consent was taken.

In the operating room, aspiration prophylaxis in the form of Ranitidine –50mg and Metaclopramide –10mg were given intravenously. An awake fibreoptic intubation (FOI) was planned. The patient was explained about the intubation procedure in his own language. A difficult airway cart was kept ready. A standard monitoring was initiated with continuous ECG, arterial O<sub>2</sub> saturation and non invasive blood pressure evaluation. ENT surgeons were asked to be in standby, in case if tracheostomy was required.

Premedication was given in the form of Intravenous Glycopyrrolate 0.2mg, Midazolam 1mg and Fentanyl 50 microgms. The upper airway was anaesthetized with Lignocaine gargle and spray. Pre-oxygenation was done with a large anatomical face mask. The fibreoptic scope was introduced through the right nostril. The neutral position of the cervical spine was maintained. 4% Lignocaine was instilled through the working port of the



[Table/Fig-1]: The picture showing Hemangioma of Tongue

fibreoptic scope, as it was advanced.

The manipulation of the fibreoptic scope was difficult because of the enlarged tongue. After proper visualization of the glottis, a cuffed endotracheal tube No 8 was guided under vision into the trachea. Neuromuscular blockade was achieved with Vecuronium.

The patient was maintained on Isoflurane with 100% Oxygen and Fentanyl infusion till the abdomen was opened. Later, 50% Nitrous oxide was added. Resection anastomosis was done by the surgeons and the procedure lasted for 2 hours and 15 minutes.

At the end of the surgery, he was allowed to return back to spontaneous respiration and the neuromuscular blockade was reversed. The patient had an adequate return of muscle power and respiratory tidal volume. It was decided to keep him electively intubated and to put on a T piece which was connected to an endotracheal tube with oxygen support. The patient was kept sedated with Propofol and Fentanyl infusions and was extubated on the second post operative day. The post operative period was uneventful and the patient was discharged on the 7th day.

## DISCUSSION

The oral cavity and the head and neck regions possess complex, rich and intricate blood vessels which may be a predisposing factor for a variety of vascular lesions. Haemangiomas are among the most common neoplasms which are encountered in the paediatric age group [1]. The haemangiomas which don't regress spontaneously need treatment especially if they cause airway obstruction, bleeding, thrombocytopenia, infections or cardiovascular problems. In adults, haemangioma of the oral cavity is a rare occurrence. It comprises of 3.4% of all the oral lesions in adults [2].

In adults, the mucosal haemangiomas most often arise from the frequently traumatized mucosal sites: the lip mucosa (63% of oral cases), the buccal mucosa (14% of cases) and the lateral borders of the tongue (14% of cases) but they may also occur at any oral or pharyngeal location. In population studies, a strong (2:1) male predilection was found, although there was only a minimal gender predilection in hospital-based studies [3]. Lingual haemangiomas pose distressing problems to the patients, producing cosmetic deformity, recurrent haemorrhage and functional problems with speaking, deglutition and mastication [4].

In our case, the difficult airway was because of the anatomical deformity of the tongue and because of the inability to place the patient in the optimal position due to cervical spondylosis.

The awake fibreoptic technique is an indispensable method in such a scenario. The flexible fibreoptic bronchoscope (FOB) gives the competent practitioner the unparalleled opportunity to secure almost any difficult airway which could be encountered.

The use of FOB in airway management is a relatively recent event. In 1967, Dr P. Murphy was the first to use a choledochoscope for the control of the airway when he performed a nasal intubation under general anaesthesia in a patient with advanced Still's disease [5].

The first FOB was made in 1966 and in 1972, reports on the use of the FOB for the intubation appeared in the academic literature. Initially, the scopes were of a large diameter and today, one can obtain scopes with an insertion tube as small as 2.4mm. Despite extensive attention towards it in the literature since its description, FOI has not achieved widespread utilization and continues to be approached with trepidation by many physicians who regularly manage the airway. The invaluable advantage of FOI is its safety but it has some disadvantages, like it requires special equipment, it is

not a straight forward procedure and many anaesthetists don't have the appropriate skill to perform it.

The specific indications for the FOI technique are head and neck tumours/lesions, cervical spine pathology, inability to open the mouth, upper airway obstruction and morbid obesity. The contraindications include patients with massive facial injury, complete upper airway obstruction, upper airway bleeding, non co operation of the patient, nasal fractures and haemostatic disorders.

The induction of GA in the presence of a suspected difficult intubation may be followed by airway compromise and difficult mask ventilation and wherever possible FOI should be performed with the patient awake.

## AIRWAY ANAESTHESIA AND TECHNIQUE

A variety of techniques exist for anaesthetizing the upper airway, their choice often being a matter of personal experience. Lignocaine is the most commonly used local anaesthetic. Topical anaesthesia of the oropharynx can be achieved either by a 10% Lignocaine spray or by 30 ml of 2-4% Lignocaine gargle. Nebulised 4% Lignocaine can also be used. For anaesthetizing the nasal airway, cotton pledgets which are soaked in 2% Lignocaine can be used. A superior laryngeal nerve block can be performed by an external or oral approach. Laryngeal anaesthesia can be achieved by puncturing the cricothyroid membrane.

FOI may be performed in the sitting, supine or in the semi sitting position. If the oral route is chosen, the scope may be introduced through a suitable bite block but the block pushes the tongue backwards and upwards which makes visualization more difficult. The bite block can be avoided if the local anaesthetic is adequate and if the patient is co operative.

The endoscopist while holding the control handle of the bronchoscope in one hand, places the other hand on the flexible shaft of the instrument near its distal tip and inserts the scope into the midline. The scope is then advanced just past the uvula and is flexed caudally to visualize the epiglottis and it is then passed behind it to visualize the vocal cords, after which it is advanced into the larynx and is passed through the glottic opening into the trachea during inspiration. The lubricated ensleeved endotracheal tube is then advanced under direct vision over the scope which functions as a stylette, aiming for the midline and following the natural curve of the pathway.

If the nasal route is chosen, the endotracheal tube can be introduced until it exits the choana to enter the nasopharynx. The scope is then advanced through the lubricated tube. Nasal FOI may be easier to perform because less patient cooperation is required and because the angle of insertion into the glottis is less acute [6].

## CONCLUSION

Tracheal intubation remains an essential skill for the clinical anaesthetist and FOI techniques represent a dramatic advance in the management of the difficult intubation. The skill in performing an FOI increases the available options and permits a more flexible approach, as the optimal airway management technique is individualized to the given clinical situation. Ideally, all practicing anaesthetists should be able to use a FOB for the intubation as expertly as they use a laryngoscope and they should also be skilled in achieving the regional anaesthesia of the upper airway, so that awake intubation can be performed with minimal patient discomfort.

## REFERENCES

- [1] Kutluhan A, Bozdemir K, Ugras S. The treatment of a tongue haemangioma by using a plasma knife surgery. *Singapore Med J* 2008; 49: 312.
- [2] Donald Yeatts, James C. Burns. Common Oral Mucosal Lesions in Adults. *American Family Physician* 1991; 44: 2043-50.
- [3] Vascular lesions [internet]. Bond's book of oral diseases, 4th edition. Available from: [www.maxillofacialcentre.com/BondBook/softtissue/softtissue.htm](http://www.maxillofacialcentre.com/BondBook/softtissue/softtissue.htm)
- [4] Qureshi SS, Chaukar DA, Pathak KA, Sanghvi VD, Sheth T, Merchant NH et al . Hemangioma of the base of the tongue. *Indian J Cancer* 2004;41:181-3.
- [5] Neil Hawkins. Introduction. Fibre optic intubation, 1st edition. London, Greenwich Medical Media, 2000; 3.
- [6] Ian R. Morris. Fiberoptic intubation. *Can J Anaesth* 1994;41: 996-1007.

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