

## Anaesthetic Management of a Huge Oropharyngeal Mass- Case Report

Vasudha Govil <sup>1\*</sup>, Suresh Singhal <sup>1</sup>, Anju Rani <sup>1</sup>, Sudha Pahal <sup>1</sup>, Sahil Arora <sup>2</sup>

<sup>1</sup> Department of Anaesthesiology and Critical Care, Pt. B D Sharma PGIMS, Rohtak, Haryana, India

<sup>2</sup> Department of Orthopedics, Pt. B D Sharma PGIMS, Rohtak, Haryana, India

\* **Corresponding author:** Vasudha Govil. Department of Anaesthesiology and Critical Care, Pt. B D Sharma PGIMS, Rohtak, Haryana, India. **Email:** [vasudha\\_govil@yahoo.com](mailto:vasudha_govil@yahoo.com)

**Received:** 14 January 2022 **Accepted:** 10 February 2022 **e-Published:** 1 March 2022

### Abstract

**Background:** Patients with oropharyngeal masses pose a challenge for an anesthetist in terms of ventilation and tracheal intubation. Thus, preoperative assessment and preparation become an integral part of the management of such anticipated difficult airway cases.

**Case report:** A 45-year-old female presented with growth in the oropharynx causing dysphagia and hoarseness of voice. Clinical examination and investigations predicted a difficult airway. It was managed with fiberoptic nasotracheal intubation with successful perioperative outcomes. Tracheostomy was kept as plan B in case of the CVCI situation.

**Conclusion:** Careful preoperative examination and assessment are required to prepare oneself for a difficult airway. Fiberoptic bronchoscope-guided nasotracheal intubation in a spontaneously breathing patient is a safe and successful technique of airway management in difficult airway cases.

**Keywords:** Oropharyngeal Mass, Difficult Airway, Preoperative Preparation, Fiberoptic Nasotracheal Intubation.

### Introduction

Huge oropharyngeal masses can be a challenge for an anesthetist in terms of assisting ventilation and securing a definitive airway. Such masses often present to the anesthetist for airway management and anesthesia, needed to aid in diagnosis or treatment. The most common oropharyngeal tumor is squamous cell carcinoma, cancer that arises from squamous epithelial cells which line the upper aerodigestive tract.<sup>1</sup> We report a case of a 45 year female with a huge oropharyngeal mass posted for excision and biopsy. A thorough preoperative evaluation and preparation for anticipated difficult airway lead to easy navigation through the entire process of anesthesia and successful perioperative outcome.

### Case report

A previously healthy 45-year-old woman presented with a growth in the oropharynx of 3 months' duration. At the time of presentation, it had begun to cause changes in her voice, globus sensation, and dysphagia. The patient

reported a significant weight loss over the prior 3 months and decreased appetite. She denied any associated pain, fever, chills, rash, or night sweats. She was a tobacco chewer, nonsmoker, and nondrinker. Clinical examination showed a large growth of 5×3 cm involving bilateral tonsillar fossa, uvula, tongue and extending inferiorly into the pharynx (Figure-1). The posterior pharyngeal wall was not visible. Airway examination revealed a mouth opening of 4cm. Mallampati class could not be assessed due to obscuration of the view by soft tissue mass filling the whole of the oral cavity. Head and neck movements were adequate. The CT scan showed a heterogeneously enhancing soft tissue attenuating lesion measuring 4.6×2.6 cm involving bilateral tonsillar fossa, uvula, valleculae, the base of tongue extending up to supraglottic region (Figure-2). Bilateral cervical lymph nodes were also seen. General Physical Examination and Laboratory investigations were within normal limits.

After a complete evaluation, it was planned to proceed for excision of the mass under general anesthesia with

fiberoptic nasotracheal intubation. Informed written consent was obtained, which included consent for emergency tracheostomy. The patient was given tablet ranitidine 150mg in the night and in the morning and was kept fasting overnight. Inj. Glycopyrrolate 0.2mg was given intramuscularly in the morning. Oxymetazoline nasal drops were instilled in nostrils. The patient was nebulized with 5 ml of 4% Lignocaine and shifted to the operating room. Baseline monitors were connected and the peripheral line was secured with 18G cannula. Oxymetazoline nasal drops were again instilled in nostrils. Superior and recurrent laryngeal nerve blocks were then given. Inj. glycopyrrolate 0.2mg and inj. Fentanyl 80mcg was administered intravenously. A nasopharyngeal airway, split in its entire length was gently placed in the right nostril to facilitate insertion of the fiberoptic bronchoscope and to avoid trauma and bleeding from the mass. The mass was gently displaced anteriorly by it. Oxygenation via a nasal cannula was continued at all times.

A fiberoptic bronchoscope was inserted through the slit nasopharyngeal airway. When the bronchoscope reached the oropharynx, the patient was asked to open the mouth and protrude the tongue which moved the mass a little forward and helped us to negotiate the bronchoscope through the mass. After reaching the carina, the slit airway was removed and a 6.5 ID endotracheal tube was inserted. Bilateral air entry was checked and the tube was fixed. Inj. Propofol 100mg and muscle relaxation with inj vecuronium 4mg were given after intubation. Anesthesia was maintained with O<sub>2</sub>+N<sub>2</sub>O+isoflurane. All monitored parameters remained stable throughout the surgery. The mass was seen to be arising from the tonsillar fossa and sent for biopsy. The patient was reversed with inj neostigmine 0.05 mg/kg and inj glycopyrrolate 0.01mg/kg and extubated after regaining consciousness. She was shifted to the post-operative ward after 1 hour of observation.

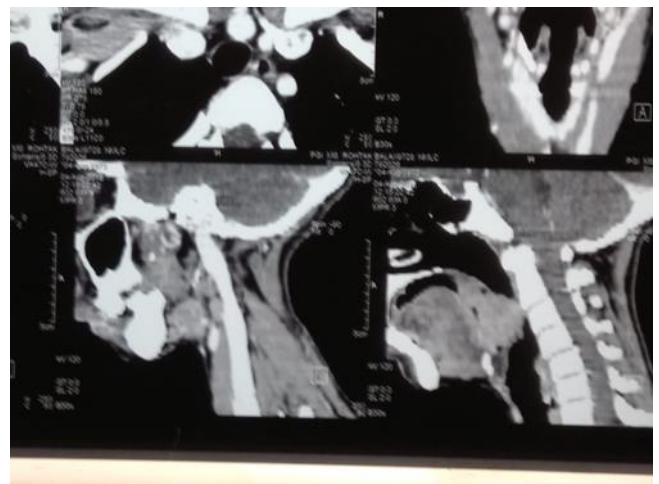
## Discussion

Oropharyngeal masses pose a challenge to the anesthetist in terms of airway management. Airway assessment of patients with anticipated difficult airways includes history, physical examination, and imaging studies. The

patient should be kept spontaneously breathing whenever there is concern that the airway will be compromised on induction of anesthesia.<sup>2,3</sup> Soft tissue swellings of the neck and oral cavity can cause deviation or compression of the airway, resulting in difficulty to ventilate and/or intubate conditions.<sup>4</sup> The presence of a large swelling in the oral cavity, as in our case, can itself make laryngoscopy difficult or even impossible. Compression of swelling during direct laryngoscopy and blind nasotracheal intubation can result in bleeding, thereby further complicating the situation. Induction of anesthesia can result in falling back of soft tissues of the airway and the swelling, thus obstructing the airway. The use of nasopharyngeal airway and mouth opening with protrusion of the tongue displaced the swelling anteriorly and facilitated smooth atraumatic passage of fiberoptic bronchoscope. Awake intubation under topical anesthesia and nerve blocks have an inherent advantage in maintaining the airway.<sup>5</sup>



**Figure-1.** Oropharyngeal mass involving bilateral tonsillar fossa, uvula, base of tongue



**Figure-2.** CT scan showing mass obscuring the airway and extending in the hypopharynx

## Conclusions

Patients with swelling in the oral cavity make ventilation and tracheal intubation difficult and challenging. A careful pre-operative evaluation and preparation are essential. Our patient presented with a huge oropharyngeal mass which almost blocked the hypopharynx. Therefore, we planned awake fiberoptic bronchoscope-guided nasotracheal intubation with proper precautions and preparation with tracheostomy as the second option in the CVCI situation. Awake fiberoptic bronchoscopy is a safe and successful technique of airway management in anticipated difficult airway scenarios

## Acknowledgment

None.

## Competing interests

There are no conflicts of interest.

## Abbreviations

Cannot ventilate, cannot intubate: CVCI.

## Authors' contributions

All authors pass the four criteria for authorship contribution based on the International Committee of Medical Journal Editors (ICMJE) recommendations. All authors read and approved the final manuscript. All authors take responsibility for the integrity of the data and the accuracy of the data analysis.

## Funding

None.

## Role of the funding source

None.

## Availability of data and materials

The data used in this study are available from the corresponding author on request.

## Ethics approval and consent to participate

The study was conducted in accordance with the Declaration of Helsinki. Institutional Review Board approval was obtained. The present study did not interfere with the process of diagnosis and treatment of patients.

## Consent for publication

By submitting this document, the authors declare their

consent for the final accepted version of the manuscript to be considered for publication.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

## References

1. Stambuk HE, Karimi S, Lee N, Patel SG. Oral cavity and oropharynx tumors. *Radiol Clin N Am.* 2007;45:1-20 doi:10.1016/j.rcl.2006.10.010 PMID:17157621
2. Law JA, Broemling N, Cooper RM, Drolet P, Duggan LV, Griesdale DE, et al. The difficult airway with recommendations for management--part 1--difficult tracheal intubation encountered in an unconscious/induced patient. *Can J Anesth.* 2013;60(11):1089-118. doi:10.1007/s12630-013-0019-3 PMID:PMC3825645
3. Apfelbaum J, Hagberg C, Caplan R, Blitt C, Connis R, Nickinovich D. Practice guidelines for management of the difficult airway. An updated report by the American Society of Anesthesiologists Task Force on management of the difficult airway. *Anesthesiology.* 2013;118:251-70. doi:10.1097/ALN.0b013e31827773b2 PMID:23364566
4. Kaur H, Kataria AP, Muthuramalingapandian M, Kaur H. Airway Considerations in Case of a Large Multinodular Goiter nesth *Essays Res.* 2017; 11(4): 1097-100. doi:10.4103/aer.AER\_86\_16 PMID:29284884 PMID:PMC5735459
5. Gilligan C, Volschenk W, Russo M, Green M, Gilmore C, Mehta V, et al. Long-Term Outcomes of Restorative Neurostimulation in Patients With Refractory Chronic Low Back Pain Secondary to Multifidus Dysfunction: Two-Year Results of the ReActiv8-B Pivotal Trial. *Neuromodulation: Technology at the Neural Interface.* 2022. doi:10.1016/j.neurom.2021.10.011 PMID:35088722