

## CASE REPORT

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### ANESTHETIC MANAGEMENT OF HUGE PAROTID TUMOR: A RARE CASE

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**ABSTRACT:** We report peri-operative management of a patient with huge parotid tumor posted for excision with predicted difficult airway. A 75 year old female, with huge mass over parotid and cervical region (with anemia and essential hypertension on management) was managed with intravenous induction and tracheal intubation with successful peri-operative outcome. We discuss use of available airway devices to secure airway in cases of anticipated difficulty in airway management based on pre-anesthetic assessment of airway in certain patients.

**KEYWORDS:** huge neck mass, anticipated difficult airway, parotid tumor, bag and mask ventilation, intubation.

**INTRODUCTION:** Huge masses around face and neck can be a challenging for an anesthetist in terms of assisting ventilation via bag and mask, and securing definitive airway. A thorough pre-operative assessment including imaging studies and preparation of patient in these cases may predict the ease of intubation.<sup>1</sup> A huge neck mass is a risk factor for difficult airway during induction of anesthesia and this has been reported in some studies.<sup>2</sup> Parotid tumors comprise of 70% of all salivary gland tumors of which about 80% are benign.<sup>3</sup> Pleomorphic adenomas comprise about 65% of benign parotid tumors, which presents clinically as slow growing, painless mass usually varying from 2-6 cm when resected.<sup>3</sup> Cases of giant parotid tumors have been reported, which can be anticipated difficult airway<sup>1,2</sup> for anesthetic management.

**CASE REPORT:** A 75 year old female, presented to the department of general surgery complaining of a slow growing painless mass on left side of face and neck below ear lobule pushing and deforming it. Mass had pressure ulcers over lateral aspect which from few days started having maggots. Patient gives h/o fall due to the mass. On clinical examination showed a giant, firm, multi-nodular, irregular, mobile mass measuring 28 cms vertically over left ramus of mandible involving parotid and cervical regions. There were no signs of facial nerve palsy despite huge mass. The skin over lateral surface was ulcerated. Clinically mass diagnosed to be a benign parotid tumor probably pleomorphic adenoma, later FNAC confirmed it and patient was posted for excision and biopsy of tumor. On pre-operative evaluation, (BMI-  $42\text{kg}/1.48\text{m}^2=19.17\text{ kg/m}^2$ ) patient found to be hypertensive with blood pressure (160/100 mm Hg) and severely anemic (with hemoglobin of 6.4 gm. %). So, patient was transfused with 6 units packed cells and raised to 10.6 gm. %, and started on an antihypertensive (Tab Amlodipine 5 mg OD), and was evaluated with electrocardiogram and echocardiography and other appropriate pre-operative investigations were done. Airway examination<sup>1</sup> of patient revealed mouth opening was 3 cm with Mallampatti class 3, thyromental distance 6 cm, sternomental distance 12 cm, head extension was adequate but lateral movements at neck were restricted. Soft tissue x-ray of neck (AP and Lateral view) showed deviation of trachea slightly to right which was confirmed by CT neck. After careful evaluation and discussion with patient and her attendants it was planned

## CASE REPORT

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proceed with GA with direct laryngoscopy and tracheal intubation. Patient was given Tab Alprazolam 0.5 mg HS, fasted overnight and was given morning dose of antihypertensive with sips of water.

After informed written consent, ASA Physical Status 2, patient was taken to OT and all baseline monitors connected (non-invasive blood pressure, continuous electrocardiogram, oxygen saturation-pulse oximeter) blood pressure was 138/78 mm Hg and i.v. access secured with 20 Gauge cannula in right wrist and 18 gauge in left wrist. As our institute lack availability of fiber-optic bronchoscope, as a part of pre-anesthetic preparation, LMA's, bougie, different sizes of airways, laryngoscope blades including McCoy blade and even tracheostomy tray were kept ready in our difficult airway cart and availability of adequate blood was ensured in the operation theatre. Patient pre-medicated with Inj midazolam 0.02mg/kg, Inj glycopyrrolate 0.005mg/kg given. Patient induced with Inj Pentazocine 0.3mg/kg, Inj Propofol 70 mg and after ensuring ease of bag and mask assisted ventilation, Inj Succinylcholine 60mg given i.v. with 100% O<sub>2</sub> assisted ventilation continued for a minute, then direct laryngoscopy was done [Cormack-Lehane grade was 2(b)]. Introduction of ETT initially tried with 7.0 mm ID cuffed tube with stillete but couldn't pass through glottis, on second attempt trachea intubated with 6.5 mm ID cuffed ETT with stillete, confirmed with continuous Capnography, fixed at 18cm then connected to closed circle system. Patient positioned right lateral, and after ensuring proper airway and tube connections surgery was started. Anesthesia maintained with O<sub>2</sub>+N<sub>2</sub>O+Halothane (0.4%-0.6%) and muscle relaxation maintained with Inj Vecuronium 3mg initial dose and 1mg every 30 minutes till 30 minutes prior to extubation. Surgeons performed excision of tumor (approx. 2 kg) with preservation of facial nerve (Duration 2.5 Hours). At the end of surgery patient was reversed with Inj neostigmine 0.05mg/kg and Inj glycopyrrolate 0.01mg/kg and after patient became fully conscious and responding to verbal commands, trachea was extubated after thorough suctioning of oro-pharynx. Throughout the surgery, all monitored parameters remained stable. Intraoperative blood loss was about 600 ml, replaced with 1 unit of whole blood. Patient was shifted to recovery room with monitoring continued. Patient's facial nerve was assessed in immediate post-operative period and found to be intact. After two hours of observation in recovery room patient shifted to post-operative ward. On 10<sup>th</sup> post-operative day patient was discharged from the hospital with advice for follow up.

**DISCUSSION:** Airway assessment of patients with anticipated difficult airway includes history, physical examination and imaging studies although it has been reported that the ease of intubation was unrelated to the extent of abnormality seen on imaging studies of the neck.<sup>2</sup> Patient should be kept spontaneously breathing whenever there is concern that the airway will be compromised on induction of anesthesia. As our institution doesn't have flexible fiber-optic bronchoscope, we decided to do the induction and assess for adequate bag and mask ventilation and then give muscle relaxant, with available adjuncts for airway management kept ready. Nevertheless, we do encountered difficulty, as shown by repeated attempts at intubation and need for smaller endotracheal tube to overcome resistance due to tracheal deviation. Retrograde intubation/Tracheostomy under local anesthesia was once considered pre-operatively as options in this case, but with above airway assessment we decided to go with induction and intubation. This patient had clinical deviation of trachea to right, and definitely a difficult case for bag and mask ventilation compared to other normal airway patients. Apart from direct risk factors, other indirect risk factors to difficult intubation like positioning of patient need to be recognized. Therefore, an appropriate position must be considered

## CASE REPORT

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before laryngoscopy. <sup>4, 5, 6</sup> Failure to recognize this would lead to major airway maintenance difficulties for the anesthetic team. A thorough pre-operative assessment including imaging studies and preparation of patient in these cases may predict the ease of intubation. As described earlier parotid tumors are usually about 2 to 6 cms average at time of excision, but in few patients like above can be large enough (size 25 cms x 18 cms) to interfere with positioning, bag and mask ventilation, also laryngoscopy and intubation.

We conclude that, with the current standards of management of maintaining spontaneous ventilation until after securing definitive airway is to be followed in cases of anticipated difficult airway, even then one can individualize management according to the case and can proceed with available options of airway adjuncts for safe management of the patient's airway.

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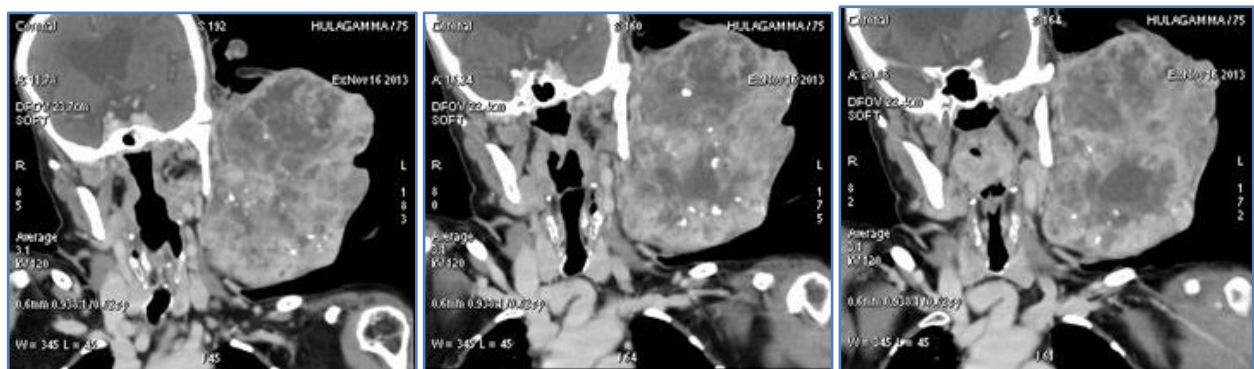


**Figure 1: patient with huge parotid tumour**

## CASE REPORT



**Figure 2: head extension and mouth opening of the patient, also shows tracheal deviation to right .**



**Figure 3: CT Scan images of Neck showing deviation and compression of larynx and trachea to right.**

## CASE REPORT

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