

NASOTRACHEAL INTUBATION USING BRONCOFLEX IN A PATIENT WITH SUBMANDIBULAR DERMOID CYST- A CASE REPORT

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PRESENTATION OF CASE

A 65-year-old male patient came with 6 months history of swelling over the right side of neck, which was gradually increasing in size.

CLINICAL DIAGNOSIS

A 65-year-old male patient came with 6 months history of swelling over the right side of neck, which was gradually increasing in size. Examination revealed a firm nontender submandibular mass of 10 x 7 cms in size with intraoral extension pushing the uvula to left and obscuring the posterior pharyngeal wall.

Routine blood investigations were normal. The contrast enhanced computed tomography revealed a well-defined mass lesion of size 7.5 x 4.1 x 5 cm in the right submandibular region involving the gland, which was showing multiple calcifications predominantly in periphery with heterogeneous contrast enhancement noted on delayed scans. The lesion was noted compressing the airway medially obliterating the parapharyngeal spaces and recess.

Excision biopsy of the swelling was planned and the patient was sent for preanaesthetic checkup. General physical examination was unremarkable. Airway assessment revealed Mallampati grade 2, 3 fingerbreadth mouth opening, thyromental distance of 7 cms and the neck movements were normal. Bilateral nares were patent with no deviated nasal septum. We planned to perform fiberoptic guided awake nasotracheal intubation followed by General Anaesthesia (GA).

PATHOLOGICAL DISCUSSION

Dermoid cysts are developmental lesions that form as a result of entrapment of pluripotent cells or due to implantation of epithelium with the former being termed congenital and the latter as acquired. Because, they are

almost always asymptomatic, dermoid cysts are usually diagnosed only after they have reached a considerable size. Treatment is surgical excision via intraoral or extraoral route, based on the lesion's size and location. Submandibular dermoid cysts with intraoral extension distorts the anatomy of the pharynx and can present a challenge to the anaesthesiologist with difficult airway and chances of bleeding intraorally.

Airway management has to be planned meticulously in such cases. Limited access to mouth, oedema, distorted anatomy, tissue immobility makes endotracheal intubation with rigid laryngoscopy very difficult. Blind nasal intubation is a simple technique with two major drawbacks like infrequent success on the first pass and increased trauma with repeated attempts, precipitating complete airway obstruction that necessitates emergency cricothyrotomy. Nasal awake fiberoptic bronchoscopic intubation is a technique of choice for management of airway in these cases. The drawbacks of fiberoptic bronchoscope are its availability in all the institutes because of the cost factor and its expertise. The reusable fiberoptic bronchoscope is very costly.

In our institute, we have got the Broncoflex (Axess Vision Technology, France), which is a single use fiberoptic bronchoscope and is much cheaper compared to the reusable one. The working principle is same as that of the reusable one. Here, in our case, since a difficult airway was anticipated and also our concerns included trauma and bleeding on attempting direct laryngoscopy, we planned for nasal fiberoptic intubation keeping surgical airway as standby. Patient was successfully intubated without any anticipated complication of trauma and bleeding. Hence, the technique of management of airway should be planned based on the availability of the variety of instruments for the same, expertise in using them, and the most important is the patient scenario. Each and every case is unique and management of airway has to be individualised.

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Figure 1. Shows Intraoral Extension of the Mass Distorting the Airway

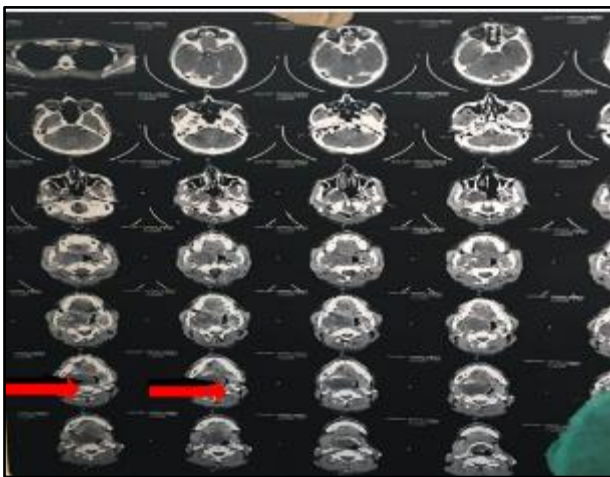


Figure 2. CT Scan Showing the Mass

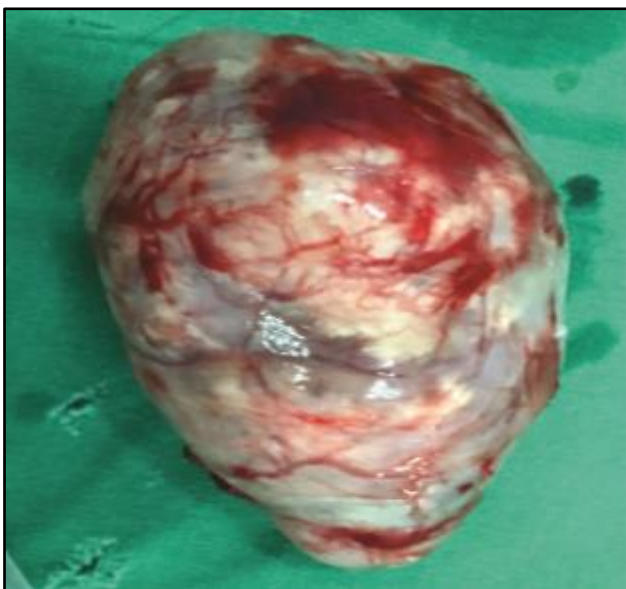


Figure 3. Dermoid Cyst after Excision

DISCUSSION OF MANAGEMENT

The procedure was explained to the patient and informed consent including consent for tracheostomy was taken. Difficult airway cart was kept ready and the surgeon was

standby for emergency tracheostomy, if required. Xylometazoline nasal drops were instilled to both nares 30 minutes prior to the procedure. IV line was secured and standard monitors were connected. Premedications included injection glycopyrrolate 0.2 mg, injection midazolam 1 mg, injection fentanyl 25 ug, injection ondansetron 8 mg and injection dexamethasone 4 mg. Lignocaine spray was used to anaesthetise oral mucosa and the pharynx. Transtracheal injection with lignocaine 1% 2 mL was given to anaesthetise the mucosa below vocal cords. A size 7 cuffed flexometallic endotracheal tube was loaded on to the Broncoflex and was introduced through the left nostril and the left side of the mass and guided into trachea. The endotracheal tube was then passed over the Broncoflex. Scope removed and proper tube position confirmed by bilateral equal air entry and capnography. GA was then induced with Inj. Propofol 100 mg and Inj. Vecuronium 4 mg for muscle relaxation. Anaesthesia was maintained with mixture of oxygen, nitrous oxide and sevoflurane. Intermittent doses of vecuronium was given for muscle relaxation. The mass was well encapsulated and was removed totally. At the end of surgery, direct laryngoscopy was done to assess the oropharynx. Oedema of the uvula, soft palate and post-pharyngeal wall was noted, and hence, patient was not extubated and shifted on T-piece to ICU. After 24 hours, patient was extubated and post extubation recovery was uneventful. The histopathology of the resected mass indicated that it was a dermoid cyst.

FINAL DIAGNOSIS

Dermoid cysts are malformations that are rarely seen in the oral cavity. 7% of dermoid cysts occur in the head and neck area and 1.6% within the oral cavity.¹ An intraoral dermoid cyst grows slowly, but may enlarge and can pose a critical risk to the airway.² The approach to airway management in such a case of compromised airway requires thorough clinical examination with emphasis on airway assessment and preoperative planning and postoperative anticipation of complications.³ Securing the airway is a core skill in anaesthesia, the gold standard of which is tracheal intubation. Normally, this is achieved after induction of anaesthesia. However, some circumstances demand an awake approach.⁴ Apart from an anticipated difficult airway with a risk of airway obstruction upon induction of general anaesthesia, airway patency is at risk in postoperative period also. Though the swelling decreases in size postoperatively, presence of significant oedema may cause airway obstruction.³ Nasal awake fiberoptic bronchoscopic intubation is a technique of choice for management of airway in these cases.⁵

Even though various techniques are available for management of difficult airway, the technique of choice for a particular patient has to be chosen wisely. Fiberoptic bronchoscopy being the technique of choice for difficult airway management may not be available in all institutes and Broncoflex, the single use fiberoptic bronchoscope with all the advantages of FOB and of less cost can be used in difficult airway scenarios.

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