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**CASE REPORT**

**Difficult Airway in a Patient of Carcinoma Tongue for Emergency Laprotomy  
in a Rural Hospital: Flexible Fibreoptic Bronchoscopic Intubation**

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**Abstract:**

Oral cancer and its treatment radiation induces a variety of changes in the airway that can potentially lead to difficult intubation. The primary intention of this article is to stress the importance of the airway problems and risk of regurgitation to be anticipated in oral cancer patients who present with acute abdomen for emergency laprotomy.

**Key words:**

Difficult airway, Emergency laprotomy, Flexible fibreoptic intubation.

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**Introduction:**

Patient with oral malignancies invariably presents with difficult airway. Patients with difficult airways pose a challenge for airway management during emergency surgeries. Radiation induced changes mainly affect the buccal mucosa, bone and dentition and may contribute towards difficulties at every step of airway management. Such airways in emergencies may lead to life threatening morbidities if not planned and managed properly.

**Case report:**

A 47 year old, 38 kg female, diagnosed to have perforation of duodenum was scheduled for emergency exploratory laprotomy at midnight. On evaluation, she was a case of carcinoma tongue on radiotherapy since 2 months. There was no other significant medical history. On general examination, she was pale with a pulse of 110-120 bpm, blood pressure of 100/60 mmHg, Cardiovascular and respiratory examination was normal.

Airway examination revealed the following: (i) micrognathia (ii) mouth opening of less than one finger breadth (iii) severe trismus (iv) modified Mallampati classification could not be assessed (v) normal dentition (vi) normal atlanto-occipital joint extension. Her haematological, biochemical

investigations as well as chest X-ray and electrocardiogram were normal. X-ray abdomen standing showed air under diaphragm. CT scan could not be done so the extent of Ca tongue could not be assessed.

After complete evaluation, general anaesthesia with awake fibreoptic nasal endotracheal intubation was planned. Patient was explained and written consent was taken. Patient was optimised. Ryles tube aspiration was done. Patient was premedicated with Inj. Metaclopramide 10mg IV, Inj. Ondansetron 4mg iv and Inj. Glycopyrrolate 0.2mg iv. One percent xylometazoline drops were instilled in both nostrils. Topical airway anaesthesia was administered with nebulisation of 2cc 4% lignocaine, 2% lignocaine was sprayed in each nostril till the posterior nasopharynx with 18G cannula. Oropharynx could not be prepared due to inadequate mouth opening.

In the operation room, patient was kept supine with 15 degree head up. Oxygen insufflation was given with a catheter placed near the mouth throughout the intubation. A 7.0 number portex cuffed endotracheal tube was mounted on 6mm Olympic flexible fibreoptic bronchoscope (FFB). After checking nasal patency, FFB was advanced in right nostril. 'Spray as you go' technique was used for which a 18G epidural catheter was

inserted in the FFB suction port and oropharynx was sprayed with total 6ml 2% lignocaine. Once the vocal cords were visualized another 2cc 2% lignocaine was sprayed and patient was asked to cough. FFB was advanced through vocal cords and patient was intubated. Placement of endotracheal tube was confirmed by auscultation and end-tidal carbon di-oxide. General anaesthesia was administered. On exploring a duodenal perforation was sutured and rest of the surgery was uneventful. At the end the patient was reversed and awake extubation was done. The patient was shifted to postoperative ward and hemodynamics were monitored and rest of the recovery was uneventful. This prompted us to review the literature in such a situation.

### **Discussion:**

Head and neck malignancy cases presenting for emergency surgery with acute abdomen have difficult airway and risk of regurgitation.

The primary carcinoma tongue and its treatment modalities both produce alterations in the upper and lower airways, posing difficulty to anaesthesiologists in airway management. Radiation induces oedema with subsequent fibrosis or necrosis in the exposed tissues. These changes mainly affect the buccal mucosa, bone, temporomandibular

joint and dentition and may contribute towards difficulties at every step of airway management <sup>(1)</sup>. These changes need to be looked for and recognised in a background of problems produced by the primary lesion in airway management. It is established that early recognition and anticipation of airway problems is the key to successful airway management. In centres in developing countries where the FFB is not available, awake blind nasal intubation could be an option. Alternatively, tracheostomy under local anaesthesia may be the only option.

In order to avoid aspiration events during induction of anaesthesia and laryngoscopy, placement of a cuffed endotracheal tube is currently the best method for isolating the airway from gastrointestinal tract. In patients at risk for pulmonary aspiration the endotracheal tube may be placed awake or after rapid sequence induction of anaesthesia and application of cricoid pressure <sup>(2)</sup>. In our case rapid sequence induction could not be done for obvious reason so we planned awake nasal fiberoptic intubation. There are no well controlled clinical trials comparing a rapid sequence induction with an awake intubation of the trachea for their ability to prevent tracheal aspiration. However, Ovassapian et al. in a review of 129 awake oral and 123 nasal fiberoptic intubations in

patients considered to be at high risk of aspiration of gastric contents found no evidence of aspiration in any of these patients. Awake intubation may be a better suitable alternative in high risk cases for aspiration<sup>(3,4)</sup>. Thus planned flexible fiberoptic bronchoscopic nasal intubation helped us in negotiating difficult intubation and pulmonary aspiration, two nightmares of the anaesthesiologists.

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