

CASE REPORT

OBSTETRIC ANESTHESIA

Anesthetic management of a patient with large goiter and necrotizing fasciitis of left breast posted for emergency toilet mastectomy

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ABSTRACT

In surgical emergencies involving complex cases such as large goiter and necrotizing fasciitis of the breast, anesthetic management poses significant challenges. We present a case study of a female patient, who presented with a large goiter and necrotizing fasciitis of the left breast, necessitating emergency total mastectomy. Our case emphasizes on the choice of anesthetic technique, which is very crucial in minimizing risks associated with potential airway compromise and to ensure optimal intraoperative conditions.

Close collaboration between the surgical and anesthesia teams for a multidisciplinary approach and tailored anesthetic management strategies in complex surgical emergencies are required for patient safety and optimal surgical outcomes.

Keywords: Neck swelling, Difficult airway, Fiberoptic intubation, Difficult intubation, Goiter

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1. INTRODUCTION

Patients with large long-standing goiter pose a great challenge to the anesthesiologist when posted for any other type of surgery requiring general anesthesia. Due to sheer size and big dimensions of their thyroid gland, they present with challenges like restricted neck movements, decreased mouth opening, tracheal deviation and compression in addition to endocrine and metabolic derangement.

Retro-sternal extension of thyroid mass makes the airway management extremely difficult.¹

2. CASE REPORT

A 60 years old female, who was a known case of type II diabetes mellitus for 3 years with a huge neck swelling for 8 years, was posted for toilet mastectomy in view of necrotizing fasciitis of her left breast.

pre-operatively, significant findings included dyspnea on lying down, Body Mass Index (BMI) of 28.7 kg/m², retrognathia, large tongue, restricted mouth opening, Modified Mallampati Score 3, restricted neck movements due to a large anterior neck swelling measuring about 10 cm x 11 cm, with able to get below



Figure 1: Showing massive sized goiter displacing the tracheas and restricting the neck mobility.

the swelling and neck circumference measured 34 cm.²

Ultrasonography revealed large multi nodular goiter with left lobe of size 9x7x6 cm, right lobe measuring 8x7x4.5 cm and isthmus measuring 2.5 cm in anteroposterior dimensions. Tracheal compression could be seen on X-ray neck (AP, lateral). Her random blood sugar level (BSL) was 200 mg/dl. All other routine investigations were within normal limits. Difficult airway and awake fiberoptic intubation consents were taken. On the day of surgery, pre-operatively patient was nebulized with 4ml of inj. lignocaine 4%, nasal packing with inj. Lignocaine 2% soaked ties and inj. glycopyrrolate 0.2 mg intramuscularly 30 min prior to surgery. Due to presence of large swelling anteriorly on neck distorting the anatomy, airway blocks were not attempted.³ In the operation theatre, patient was placed in a semi recumbent position (30° elevation). Patient’s oropharyngeal cavity was sprayed with lignocaine 10% spray. Awake fibre optic intubation (AFOI) was done nasally using spray as you go technique with 7.0mm size endotracheal tube (ETT).⁴ Thereafter, inj. propofol 180 mg IV was given for induction and maintained on oxygen (O₂), nitrous oxide (N₂O), sevoflurane and intermittent doses of inj. atracurium. at the end of surgery, patient had inadequate respiratory effort. so as to avoid chances of airway

collapse due to possibility of tracheomalacia in this long-standing large neck swelling, the patient was shifted intubated to Surgical Intensive Care Unit (SICU). Post-operatively patient was extubated on Day 2 uneventfully.

3. DISCUSSION

Massive thyroid swellings are a formidable challenge to anesthesiologists. Our patient comes under Class 2 type goiter depending on the WHO classification of Goiter according to size.⁵

When the goiter is massive and retro-sternal, it compromises the airway severely as it leads to tracheal compression and deviation in addition to compression of esophagus. Further large goiters can cause compression on the large blood vessels found in the neck.

Many techniques can be used to manage difficult airway in patient with large goiter. Our case was of a large multi nodular goiter, with difficult airway and tracheal compression. It should be highlighted at this stage that semi recumbent position (30° angle of the table) was given to prevent respiratory discomfort due to tracheal compression. Our airway concerns included difficult mask ventilation and intubation due to obesity,

Grade	Size of the thyroid gland
0	No palpable or visible goitre
1	Palpable goitre, not visible when the neck is in the normal position; goitre moves upwards in the neck as the subject swallows; some nodular alterations
2	Visible swelling in the neck

Source: West et al., 2004.

retrognathia, decreased mouth opening, large tongue, Mallampati Grade 3, large goiter causing decreased neck movements and tracheal compression. Hence, we opted for AFOI to secure the airway. Extubation in such cases poses a great challenge, a huge goiter compressing over the trachea for a very long period can cause atrophy and erosion of tracheal rings leading to tracheomalacia, preoperative recurrent laryngeal nerve palsy, significant tracheal narrowing or deviation, retrosternal extension, difficult tracheal intubation, and thyroid malignancy. Post Extubation, this can cause collapse of the trachea in leading to non-ventilation. This is usually a self-limiting situation as the strength of the tracheal wall is regained after pressure relief.⁶ Hence, we electively kept our patient in an intubated state to prevent airway collapse due to tracheomalacia.

She was successfully extubated after 24 h in SICU after negative leak test. This helped in less possibility of airway collapse.

4. CONCLUSION

Awake fiberoptic intubation can be used in patients with potential intubation difficulties which are anatomical in origin. It has higher success in airway management than conventional laryngoscopy in a difficult airway case. Successful airway and anesthesia management was done in our patient of very difficult airway due to a large goiter posted for non-thyroid emergency procedure with awake fiberoptic intubation.

5. Conflict of interest

Nil declared by the authors.

6. Consent for publishing

Written permission was obtained from the family of the patient to publish this case report.

7. Authors contribution

All authors took part in the conduct of study, literature search, manuscript editing

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