



International Journal of Medical Anesthesiology

E-ISSN: 2664-3774
P-ISSN: 2664-3766
www.anesthesiologypaper.com
IJMA 2025; 8(1): 35-38
Received: 15-12-2025
Accepted: 19-01-2025

Richa Dwivedi
KLE Prabhakar Kore
Hospital, Nehru Nagar,
Belagavi, Karnataka, India

Vandana Gogate
KLE Prabhakar Kore
Hospital, Nehru Nagar,
Belagavi, Karnataka, India

Mahantesh Mudakanagoudar
KLE Prabhakar Kore
Hospital, Nehru Nagar,
Belagavi, Karnataka, India

Chaitanya Kamat
KLE Prabhakar Kore
Hospital, Nehru Nagar,
Belagavi, Karnataka, India

Airway management of a schizophrenic patient with large neck swelling: A case report

Richa Dwivedi, Vandana Gogate, Mahantesh Mudakanagoudar and Chaitanya Kamat

DOI: <https://www.doi.org/10.33545/26643766.2025.v8.i1a.545>

Abstract

Background: Securing airway is crucial to anesthetic management. Neglect in patients with massive cervical masses is not without danger, especially when there is anatomical changes in the mass and/or compressive symptoms.

Case: A 47-year-old female, known case of schizophrenia, presented with progressive neck swelling causing increasing difficulty in breathing. Patient also gave history of difficulty in lying supine. The patient underwent a successful surgical excision of an anterior neck mass wherein awake fiberoptic intubation was used to secure airway. This report aims to highlight the importance of careful planning and execution of perioperative airway management for optimizing patient safety.

Conclusion: Prior imaging for preoperative assessment as to tracheal displacement and compression, anticipation of a difficult airway along with alternative strategies in managing the situation are the key considerations for perioperative management of airway involving large neck masses causing tracheal compression.

Keywords: Airway management, cervical mass, fiberoptic intubation, tracheal compression, perioperative planning

Introduction

Large cervical swellings not only deform but also cause airway obstruction due to the mechanical compression of the trachea. Pre anesthetic evaluation and Anesthetic plan for such patients are very challenging. In this scenario, a schizophrenia patient presented with disabling airway obstruction due to bilateral thyroid swelling along with subcutaneous anterior neck mass which warranted careful planning for difficult airway management^[4].



Fig 1: Anterior neck swelling present in the patient

Corresponding Author:
Richa Dwivedi
KLE Prabhakar Kore
Hospital, Nehru Nagar,
Belagavi, Karnataka, India

Case Report

A 47 years old female, known case of schizophrenia for 15 years on tablet olanzapine 10mg twice daily, presented with a progressively enlarging anterior neck swelling for the past 5 years and was posted for excision of the same. It was insidious in onset and gradually progressive in nature. Patient complained of inability to lie supine owing to pressure on the trachea, which caused difficulty in breathing since past 2 months. She adapted herself to sleep in a semi-recumbent position. Patient also gave history of difficulty in swallowing solid food since past 2 months. Patient gave no

history of change in voice. Airway examination showed mouth opening of 2 fingerbreadth, Mallampati class 4, with limited neck mobility. There were no loose or damaged teeth.

MRI of the neck revealed a multinodular goitre involving both lobes of the thyroid. Right lobe measuring 3.6× 3.8× 7.1 cm, isthmus measuring 3.4cm, left lobe measuring 3.4× 4.3× 9.5 cm in size. Significant mass effect was noted on trachea. No retrosternal extension noted. In addition a subcutaneous swelling of 5.4× 3.1× 4.7 cm in size was noted above the thyroid cartilage. (Shown in figure 2)

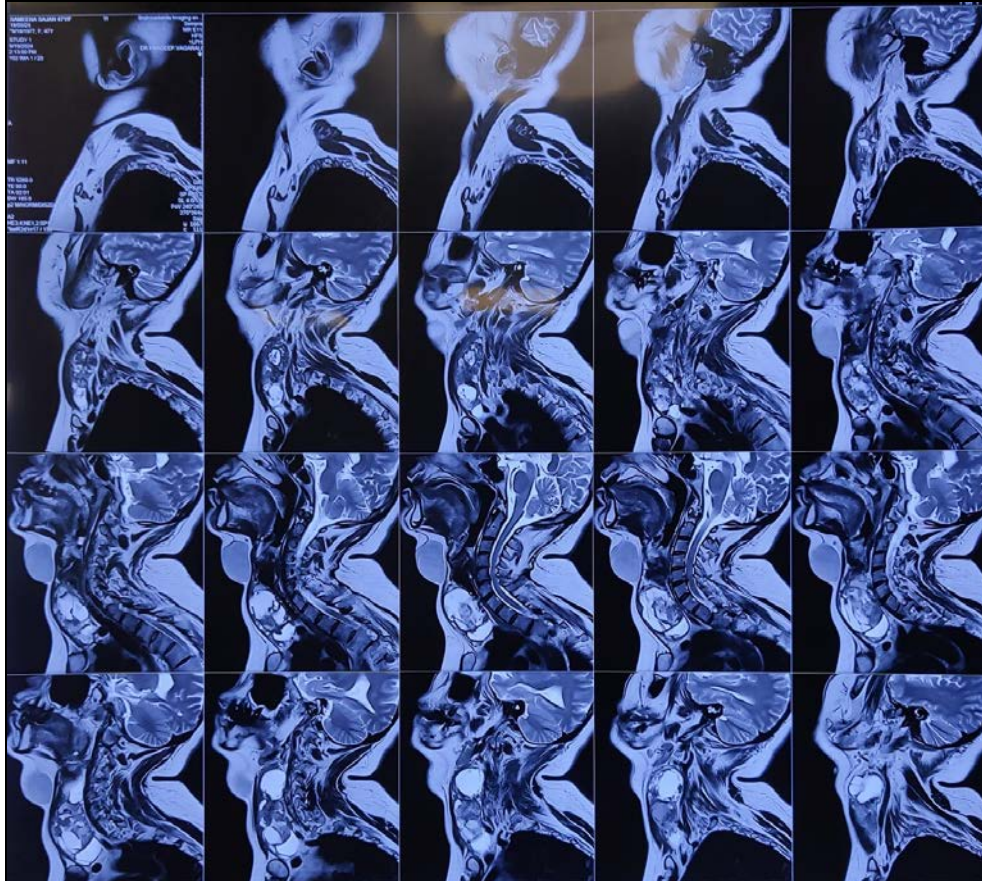


Fig 2: MRI scan showing the mass in the cervical region

Considering the size of mass, limited neck extension, restricted mouth opening and inability to lie supine, we decided to go ahead with awake fiberoptic intubation for the patient. Considering history of schizophrenia patient was counselled the previous day, allaying her fears and clearing doubts regarding the procedure of fiberoptic intubation. Antipsychotic medications were continued on the day of surgery. Patient was given nebulization with 5cc of 4% lignocaine with 1mcg/kg dexmedetomidine. Due to neck swelling, Superior laryngeal and recurrent laryngeal nerve blocks could not be given. Patient was given head up position at 45° angle. All standard monitors were attached. Injection glycopyrrolate 0.2mg and Inj fentanyl 30mcg was administered IV. A lubricated 6.5mm internal diameter flexometallic endotracheal tube was mounted on the fiberoptic bronchoscope. Patient received supplemental

oxygen at 2lit/min through nasal prongs. Spray as you go technique was followed [2]. We advanced the scope nasally until glottis and vocal cords were visualised. Once the scope reached carina, the endotracheal tube was passed. Placement was reconfirmed by capnograph. Immediately Inj Propofol 100mg and Inj Fentanyl 70mcg was administered along with neuromuscular blocking agent Inj Atracurium 30mg IV. The subcutaneous mass was excised surgically without any complications. Following which we reversed the neuromuscular blockade with Inj glycopyrrolate 0.4mg and Inj Neostigmine 2.5mg and successfully performed awake extubation. She was kept under observation for a day in ICU, for any respiratory compromise and postoperative complications. After which she was transferred to wards for recovery without any unwarranted events ensuing.



Fig 3: Nasal Fiberoptic intubation being performed with patient in head up position

Discussion

Anticipating a difficult airway is a crucial aspect of anesthetic management, particularly in patients with anatomical abnormalities or pre-existing conditions that increase the risk of airway obstruction [1]. The ability to predict and prepare for airway challenges significantly improves patient outcomes and reduces the risk of complications such as hypoxia, aspiration, and failed intubation. A thorough preoperative assessment using clinical evaluation and imaging techniques helps in identifying potential difficulties. Traditional bedside predictors such as the Mallampati classification, thyromental distance, neck mobility, and history of previous difficult intubation provide valuable insights into the likelihood of a challenging airway. However, these parameters are not always reliable, especially in cases with progressive anatomical distortion, such as large thyroid masses or suprathyroid swellings. Imaging techniques like MRI and CT scans are particularly useful in assessing tracheal displacement and compression, as seen in our case, where the patient's inability to lie supine indicated significant airway compromise.

When faced with a difficult airway, selecting the appropriate intubation method is essential. Awake intubation techniques, such as awake fiberoptic intubation, is particularly beneficial in patients with severe airway obstruction, where inducing general anesthesia could lead to complete airway collapse [7]. It involves the use of a flexible fiberoptic bronchoscope to visualize the glottis and guide an

endotracheal tube into the trachea, either through the oral or nasal route. This technique is particularly advantageous in cases where conventional intubation is anticipated to be difficult, such as in patients with large neck masses, limited mouth opening, unstable cervical spine, or a history of failed intubation. Unlike rigid laryngoscopy, fiberoptic intubation allows for a more atraumatic approach by navigating around anatomical obstructions without excessive force. Furthermore, it can be performed while the patient is awake, maintaining spontaneous ventilation and reducing the risk of airway collapse. This is particularly important in cases where airway compromise is severe, as in our patient who had a multinodular goiter and anterior neck swelling leading to significant tracheal compression.

Despite its many advantages, fiberoptic intubation is not without challenges. Patient cooperation is a key factor, as awake fiberoptic intubation requires the patient to remain calm and cooperative. In cases of psychiatric disorders such as schizophrenia, as seen in our patient, maintaining cooperation can be particularly challenging and may necessitate sedation [9]. Another drawback is the steep learning curve, as it requires significant training and experience for successful execution. It may not be suitable for emergency intubations where rapid airway control is required. Additionally, airway secretions and mucosal bleeding can obscure the view, making intubation more difficult [5]. Despite these limitations, fiberoptic intubation remains one of the most effective and safest techniques for securing a difficult airway.

Direct laryngoscopy remains the most common approach, but it has significant limitations in cases of restricted mouth opening, airway edema, or anteriorly displaced larynx [3]. Video laryngoscopy, which provides enhanced glottic visualization, has a higher success rate than direct laryngoscopy, particularly in patients with difficult airways [6]. However, it may not be effective in cases with severe airway obstruction or minimal mouth opening. Supraglottic airway devices such as the laryngeal mask airway (LMA) serve as useful rescue options when conventional intubation fails, though they do not provide definitive airway security, particularly in patients at risk of aspiration [8]. In extreme cases, surgical airway management through cricothyrotomy or tracheostomy is required when all other methods fail.

In our patient it was essential that the tip of the endotracheal tube was placed beyond the site of tracheal compression so as to enable unobstructed mechanical ventilation intraoperatively. This could not have been achieved by conventional laryngoscopy. During awake fiberoptic intubation the endotracheal tube was guided under vision so that the tip was beyond the tracheal compression.

A flexometallic endotracheal tube was used to maintain airway patency, ensuring that the airway remained open throughout surgery. Postoperatively, the patient was closely monitored in the ICU for any signs of airway compromise. The successful extubation and uneventful recovery of the patient highlight the importance of meticulous airway planning, careful execution, and the use of advanced intubation techniques such as fiberoptic intubation in managing difficult airways.

References

1. Yang J, Kim S, Lee B, Lee K, Kim D, Lee J, *et al.* A fiberoptic orotracheal intubation successfully performed using a modified Guedel airway in a sedated emergency

- patient - A case report. *Anesth Pain Med* (Seoul). 2020 Jul 31;15(3):378-82. doi:10.17085/apm.20030. PMID: 33329839; PMCID: PMC7713837.
2. George J, Kader JA, Arumugam S, Murphy A. Successful intubation of a difficult airway due to a large obstructive vocal cord polyp augmented by the delivery of a transtracheal injection of local anaesthetic. *BMJ Case Rep*. 2015 Dec 1;2015:bcr2015210905. doi:10.1136/bcr-2015-210905. PMID: 26628451; PMCID: PMC4680304.
 3. Rugnath N, Rexrode LE, Kurnutala LN. Unanticipated difficult airway during elective surgery: A case report and review of literature. *Cureus*. 2022 Dec 27;14(12):e32996. doi:10.7759/cureus.32996. PMID: 36712753; PMCID: PMC9879068.
 4. Ahmad S, Kumar N, Kumar A, Palasevam S. Successful fiberoptic orotracheal intubation by lifting large thyroid mass and tongue protrusion in left lateral position: a case report. *Emerg Crit Care Med*. 2024 Jun;4(2):97-99. doi:10.1097/EC9.000000000000100.
 5. Pradhan K, Khadka B, Rayamajhi B, Sharma A, Bhattarai PR, Kc S, Nepal R. An unusual cause of failure of fiberoptic intubation due to continuous suctioning: A case report. *Clin Case Rep*. 2024;12:e9696.
 6. Jeong H, Song EJ, Jang EA, *et al*. Managing a difficult airway due to supraglottic masses: successful videolaryngoscopic intubation after induction of general anesthesia. *Perioper Med*. 2024;13:21.
 7. Hariharasudhan B, Mane RS, Gogate VA, Dhorigol MG. Successful management of difficult airway: A case series. *J Sci Soc*. 2016 Sep-Dec;43(3):151-154. doi:10.4103/0974-5009.190547.
 8. Uzawa K, Tokumine J, Lefor AK, Takagi T, Watanabe K, Yorozu T. Difficult airway due to an undiagnosed subglottic tumor: A case report. *Medicine*. 2016 Apr;95(15):e3383. doi:10.1097/MD.0000000000003383.
 9. Yang J, Zou F, Ma G. Awake fiberoptic intubation of a patient with severe multiple trauma in prone position: a case report. *BMC Anesthesiol*. 2024;24:245.
 10. Okano DR, Perez Toledo JA, Mitchell SA, Cartwright JF, Moore C, Boyer TJ. Intraoperative accidental extubation during thyroidectomy in a known difficult-airway patient: An adult simulation case for anesthesiology residents. *Healthcare (Basel)*. 2022 Oct 12;10(10):2013. doi:10.3390/healthcare10102013.

How to Cite This Article

Dwivedi R, Gogate V, Mudakanagoudar M, Kamat C. Airway management of a schizophrenic patient with large neck swelling: A case report. *International Journal of Medical Anesthesiology*. 2025;8(1): 35-38.

Creative Commons (CC) License

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.