

## Case Report

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# Inadvertent Insertion of a Nasogastric Tube into The Trachea

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## Abstract

Head and neck surgeries requires the insertion of a nasogastric tube. The insertion of a nasogastric tube in an intubated patient can pose challenges, one of which could be the unintentional placement into the trachea. Despite the presence of a correct sized endotracheal tube and adequately inflated cuff, there can be chances of slippage of the nasogastric tube into the trachea hindering ventilation. We describe one such case scenario of how the improper nasogastric tube placement hindered the ventilation of the patient.

**Keywords:** tube; hand; neck; patient

## Introduction

The insertion of a nasogastric tube in head and neck surgeries is required for various reasons including the identification of the oesophagus and post-operative enteral feeding [1]. The placement of a nasogastric tube can sometimes be a daunting task with the possibilities of its entry into the trachea. Hence the correct position and confirmation of the nasogastric tube is important. Insertion of a nasogastric tube in an intubated patient has high first-attempt failure rates [2]. The nasogastric tube can get impacted in the pyriform sinus, the arytenoids and the oesophagus which gets compressed by the inflated cuff of the endotracheal tube leading to difficulty in insertion [3]. Here we describe a case scenario of how unintentional improper nasogastric tube placement hindered the ventilation of the patient.

## Case report

A 59-year-old male patient with a diagnosis of carcinoma right border of tongue was planned for wide local excision of the lesion plus right selective neck dissection and primary closure. During the pre-anesthetic checkup patient was examined thoroughly and was cleared for the surgery under The American Society of Anesthesiologists Physical status classification 3. In the preoperative area after noting down the baseline vitals (heart rate- 76 bpm, blood pressure- 130/84 mmHg, SpO<sub>2</sub>: 98% on room air), nasal preparation was done with 0.1% xylometazoline 2 drops instilled in each nostril. In the OR, ASA standard monitors were attached. After adequate pre

oxygenation, patient was induced with Inj Midazolam 1 mg iv, Inj Fentanyl 120 mcg, Inj Propofol 140 mg iv. After check ventilation, muscle relaxant Inj Vecuronium 7 mg was administered. After 4 minutes of bag and mask ventilation, 7.5 mm cuffed flex metallic endotracheal tube was inserted through the right nostril. Using Mac blade, direct laryngoscopy was done and with the help of Magill's forceps, the tube was guided through the cords. Breathing circuit was connected, and position of the tube was confirmed with 5-point auscultation and capnography trace. Patient was then switched over to volume control mode of ventilation. Tube was secured with tapes and eyes were taped. After application of the lubricant, 16 Fr nasogastric tube was inserted through the left nostril using reverse Sellick manoeuvre. Nasogastric tube passed without resistance and at a depth of 45 cm, the position of nasogastric tube was checked by auscultation over the epigastric region. A minute later, leak of about 150 M L was observed in the exhaled tidal volume. FiO<sub>2</sub> was increased to 100% and patient switched to manual hand ventilation at a flow rate of 6 L/min. Position of the tube was confirmed by auscultation. Cuff pressure was checked (pressure: 25 mmHg) and was found to be normal. Leak persisted and direct laryngoscopy was done to confirm the position of the cuff. Laryngoscopy revealed normal findings. Suspecting a cuff rupture a decision was made to exchange the tube with a larger endotracheal tube of 8.0 mm. After deepening the plane of anesthesia and adequate oxygenation with 100% O<sub>2</sub>, 7.5 mm ET tube was removed, and 8.0 mm tube was inserted through the

right nostril. While performing direct laryngoscopy to guide the nasal ET tube into the trachea with the help of Magill's forceps, the nasogastric tube was found coiled in the trachea. Although studies have shown successful nasogastric tube insertion in the oesophagus using the reverse Sellick technique, it was not so in our case [4]. The nasogastric tube was then pulled out and guided into the oesophagus while the endotracheal tube was guided into the trachea with the help of Magill's forceps. The cuff was inflated, and patient was connected to the ventilator. No significant leak was detected. The cuff of the previously removed ET tube was intact suggesting that the leak was not due to the cuff rupture, and consideration must be given to the improper placement of the nasogastric tube, which could have accidentally entered into the trachea.

## Conclusion

One has to be vigilant while inserting nasogastric tube and that despite cuff inflation there are possibilities

that the nasogastric tube can slip into the trachea. Under anaesthesia, the auscultatory method might not always be the reliable test to confirm the position of nasogastric tube. Hence the accidental placement of a nasogastric tube into the trachea must always be considered.

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**Cite this article:** Sandeep G, Agrawal N, Sinha M, Rajwade S. (2024). Inadvertent insertion of a nasogastric tube into the trachea, *International Journal of Medical Case Reports and Reviews*, BioRes Scientia Publishers. 2(6):1-2. DOI: 10.59657/2837-8172.brs.24.036

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**Article History:** Received: November 20, 2023 | Accepted: December 30, 2023 | Published: January 03, 2023