

A Rare Scenario of Can Intubate Cant Ventilate.

Dr J Praneeth¹, Dr Pranathi E¹, T. Surya Sree.²

¹Post Graduate in Dept. of Anaesthesiology, Siddhartha Medical College/Govt. General Hospital, Vijayawada, A.P., India

²Professor and Head of Dept. of Anaesthesiology, Siddhartha Medical College/Govt. General Hospital, Vijayawada, A.P., India

Corresponding Author: Dr J Praneeth

Abstract: Introduction: Pre-use checking endotracheal tube cuff is a daily routine in the practice of anaesthesia. Manufacture defects of endotracheal tubes are not common; hence easily overlooked. Such defects can be catastrophic if corrective measures are not timely instituted. Case Report: We are presenting a case of 12 years female child posted for adenotonsillectomy under general anaesthesia in which there was difficulty to ventilate after intubation due to block present in endotracheal tube connector. Discussion: Conditions like bronchospasm, mechanical obstruction in the tube, kinking of the tube and defect in endotracheal tube must be considered and corrected in cases of difficult ventilation following intubation. Conclusion: manufacturing defects must be anticipated in cases of difficult ventilation following intubation if all the other causes are ruled out.

Keywords: unanticipated difficult airway, endotracheal tube, manufacture defect.

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I. Introduction

30% of anaesthesia related deaths are due to difficult airway. It is not possible to ventilate the patients even after successful endotracheal intubation. This might be due to obstruction of the breathing circuit, poor lung compliance due to bronchospasm, chest wall rigidity. Rarely manufacture defects of the endotracheal tube may be a reason for difficulty in ventilation after intubation. Pre-use checking of the endotracheal tube must be a daily routine in the practice of anaesthesia delivery. Hence one must always be ready with difficult airway management kit. Pre-operative airway assessment and proper checklists decrease the incidence of unanticipated difficult airway.

Here we are reporting a case of completely occluded endotracheal tube connector which led to a CAN INTUBATE CANT VENTILATE scenario. Our primary objective of this case presentation is to emphasize the need for daily careful examination of the endotracheal tube prior to anaesthesia delivery.

II. Case Presentation

12-year-old female child came to the hospital with chief complaints of nasal obstruction since 3 weeks. It was insidious in onset gradually progressive in severity. She also complained of pain in the throat and fever since 3 weeks. Patient had a history of frequent rhinorrhoea. There was no history of Upper respiratory tract infection, ear infections, sleep disorder, mouth breathing, halitosis. There was no history of other associated co morbidities. Mile stones are normal.

General examination – Patient was well built and well nourished. Vitals were normal. On Airway examination Mouth opening was adequate, admitting 3 fingers. Mallampati grading was grade I with Thyromental Distance of 6 cms.

The patient was diagnosed to have Adenotonsillitis posted for Bilateral Adenoidectomy and Tonsillectomy.

ANAESTHETIC MANAGEMENT:

The plan of anaesthesia was General anaesthesia with endotracheal intubation and intermittent positive pressure ventilation. The patient was premedicated with Tab. Alprazolam 0.5mg, Tab. Metoclopramide 10mg

Tab. Ranitidine 150mg on the night before surgery. The patient was shifted to Operation theatre. Intravenous access was secured on the dorsum of right hand with 20G IV cannula. Non-invasive ASA standard minimum mandatory monitors were attached. Preoxygenated for 3 minutes with 100% Oxygen via face mask. Premedicated with Inj. Glycopyrrolate 0.1mg, Inj. Dexamethasone 4mg, Inj. Fentanyl 30mcg. Induced with Inj. Propofol 60mg, Inj. Vecuronium 3mg given and ventilated for 4 minutes. Intubated with a new single-use PVC cuffed endotracheal tube of size 6 ID under vision. Bilateral air entry was absent. On auscultation of abdomen no air entry present. There was no trace on capnogram and the peak airway pressures were high. Tube

position reconfirmed under direct laryngoscopy. The circuit was checked for any obstruction. No obstruction present. Bronchospasm suspected. The plane of anaesthesia was deepened. Metered dose inhaler puff with salbutamol was given. The problem was detected as an endotracheal tube connector block when we failed to pass a 10 French suction catheter through the tube. The endotracheal tube connector was changed, bilateral air entry was present on auscultation and trace of capnogram appeared. Further intraoperative and postoperative period was uneventful.



III. Discussion

In situations of difficulty in ventilation after intubation the following scenarios may be considered – acute bronchospasm, chest wall rigidity, kinking of the endotracheal tube, defects in the endotracheal tube, and obstruction in breathing circuits (anywhere from common gas outlet to endotracheal tube).¹ Of these manufacturing defects are rare and are commonly overlooked. Cuff defects leading to herniation of the ETT cuff and intraluminal tracheal obstruction,^{2,3} and intraluminal plastic films and meniscus⁴ causing near total airway obstruction have been described. In our case, although the connector defect was significant, it went unrecognized during preoperative inspection. High resistance on manual ventilation and persistently high inspiratory pressures lead to the suspicion of ETT defect, as all maneuvers to overcome difficulty in ventilation failed. Baldemir et al,⁵ Sofi et al⁶ also reported the cases in which there were difficulty in ventilation due to manufacturing defect in ETT connector and due to plastic meniscus at the distal end.⁶ In the era of usage of red rubber tubes, a telescopic test was done to rule out tube block due to dried up secretions or any debris. The examiner must be able to see through it. It is obsolete now as we are using transparent PVC tubes.

IV. Conclusion

Checking of the endotracheal tube not only for the cuff leak but also for the patency is mandatory. This article emphasizes the thorough checking of new single-use PVC endotracheal tube for manufacturing defects.

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