

An Unusual Experience During Percutaneous Dilatational Tracheostomy

A Chakraborty, R Dutta, B Bihari Kushwaha, D Kumar Singh

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Abstract

We reported a case of repeated misplacement of tracheostomy tube following percutaneous dilatational tracheostomy in a patient of thyroid swelling. An endotracheal tube was inserted through stoma as the former was falling short in comparison to increased skin to trachea length.

INTRODUCTION

Percutaneous dilatational tracheostomy is a useful method of surgical airway in intensive care unit particularly in patients with anticipated prolonged mechanical ventilation or needs prolonged airway protection¹. It needs less expertise and morbidity is less than the conventional open method. We have performed more than one hundred percutaneous tracheostomies over a period of two years without any significant morbidity or complication.

Here we share an experience of technical difficulty after percutaneous tracheostomy in 26 year old post-partum patient with cortical sinus thrombosis, in the need for prolonged airway protection. She was unconscious and was receiving mechanical ventilation. She was having a smooth and soft thyroid swelling up to first tracheal ring with deviated trachea to the left. After withdrawal of endotracheal tube proximally till the cuff just inside the vocal cord, adequate positioning with proper neck extension with a sandbag just below the shoulder was done. Trachea was palpable with difficulty below the thyroid swelling just medial to the left sternocleidomastoid muscle near the suprasternal notch.

After local infiltration with xylocaine with adrenaline, an incision was given one finger above the suprasternal notch. After puncturing with the needle, trachea was found deeper than in the other cases. After the serial dilatations, cuffed tracheostomy tube was introduced. Confirmation of the position was done with end-tidal CO₂ monitoring and bilateral symmetrical chest expansion. The tracheostomy tube was secured with strap around the neck. During

changing of position, the patient developed subcutaneous emphysema with disappearance of ETCO₂. The tracheostomy tube was removed and endotracheal intubation was done for proper ventilation. Track was found out and tracheostomy tube repositioned.

The misplacement of the tracheostomy tube again occurred after re-insertion, during position change. An endotracheal tube was inserted through tracheostomy opening to take the advantage of length of it. This prevented the recurrent displacement of the tracheostomy tube as it was falling short in comparison to longer length from skin to trachea in this patient due to deviation of trachea and deeper position of it in suprasternal area. The previous misplacements of tracheostomy tube might also be due to extra-tracheal positioning of its cuff with its distal lumen just inside the trachea.

Various methods like bronchoscopes were applied to locate the deviated trachea during tracheostomy^{2, 3}, but the depth can only be ascertained by the depth of the puncturing needle. Cautious placement of tracheostomy tube after confirming its depth and deviation from midline in patients with neck swelling can alleviate these problems

CORRESPONDING AUTHOR

Arpan Chakraborty Junior Resident, Department of Anesthesiology Institute of Medical Sciences Banaras Hindu University, Varanasi-221005 India, Phone-(91)9839833680
E-mail: arpan1977ster@gmail.com

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Author Information

Arpan Chakraborty, M.D.

Junior Resident, Department of Anesthesiology, Institute of Medical Sciences, Banaras Hindu University

Rahul Dutta, MBBS

Junior Resident, Department of Anesthesiology, Institute of Medical Sciences, Banaras Hindu University

Brij Bihari Kushwaha, M.D.

Senior Resident, Department of Anesthesiology, Institute of Medical Sciences, Banaras Hindu University

Dinesh Kumar Singh, M.D.

Reader, Department of Anesthesiology, Institute of Medical Sciences, Banaras Hindu University