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Endotracheal tube markings – Reverse order – A RARE manufacturing defect

Editor,

Endotracheal tubes have incremental markings from the tip to characterize the distance from the tip to the level of incisor as the depth of insertion. We here describe a case of reverse order of markings on endotracheal tube causing confusion to the exact depth of insertion.

In a 2 year old child, with a Cormack-Lehane grade I on laryngoscopy, a size 4.0 mm internal diameter Kimvent⁎ Microcuff⁎ Endotracheal tube (Kimberly-Clark Microcuff®PET; Kimberly Clark, Health Care, Atlanta, GA, USA) was passed under vision. Tube was positioned at 11 cm at incisors but it seemed to be reasonably inward on visible inspection of tube. On auscultation, it confirmed our diagnosis of endobronchial intubation. Subsequently the tube was withdrawn by 1 cm and to our astonishment we saw marking of 12 cm at incisor level. Then we closely observed the numbers on the tube and found they were in the reverse order (Fig. 1). Decision to change the tube was made as it was unusual to have reverse markings on the tube and depth of insertion could not be ascertained. The defective tube was reported to the manufacturer to rule out similar defective tubes in circulation posing risk to other patients.

Accurate depth of endotracheal tube placement is necessary, especially in paediatric population [1]. Successful tracheal intubation depends on a three stage process of selecting a tracheal tube of appropriate diameter, inserting it into the trachea to the correct depth, and securing it in the correct position [2]. The correct position of tracheal tubes should be confirmed immediately after insertion. The chest should be inspected for equal and bilateral chest expansion and auscultated for equal and bilateral air entry. The importance of intubating depth marking and the presence of four precision bands cannot be emphasized enough. All endotracheal tubes have markings from tip in centimeters in incremental numbers [3]. However, we report a case of endotracheal tube where markings from distal to proximal end were in declining numbers which led to confusion. Though it's just a limited manufacturing defect, but there can be issues if tube is just fixed by length and not reconfirmed on auscultation especially in emergency by paramedics. We emphasize the importance of checking the markings on tube prior to tube insertion in addition to cuff assembly check and making sure the orientation of markings furthermore.

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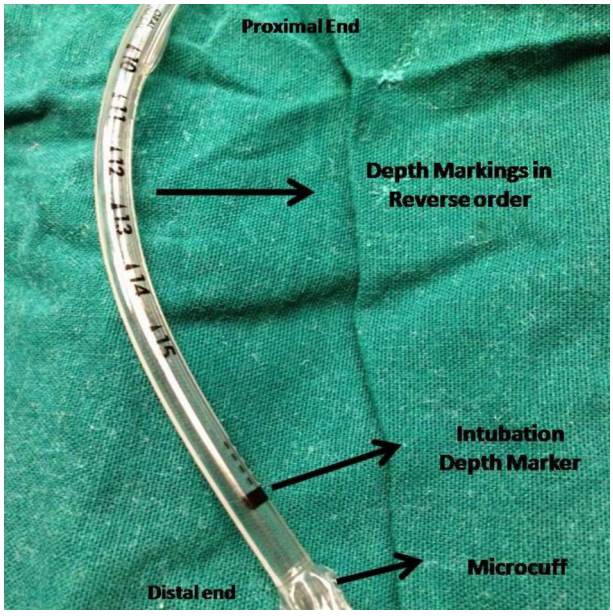

Fig. 1. Reverse order of markings on Microcuff tube.

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Conflict of interest

None.

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