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Case Report
Other

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Hard and Granny Tie, Nasogastric Tube Knotted in Nasopharynx: A Case Report

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Abstract

Nasogastric tubes are being used in clinical anaesthesia settings on a daily basis. Although rare, knotting could occur during insertion or removal. Here, we report a knotted nasogastric tube which stocked in patient's nasopharynx that was removed by using a pediatric bougie. Clinicians must be aware of potential knotting of nasogastric tube. Pediatric bougie could be utile if knotted tube gets stocked in nasopharynx.

Keywords: nasogastric tube, knot, nasopharynx, bougie

Introduction

Nasogastric tube is being used for feeding, suction of secretions, or as a guide for surgeons to find esophagus during surgery.[1] Although useful, different complications have been reported, related to its insertion, use or removal[2,3] among them; knotting is a known one[4] and its removal by using fiberoptic endoscopic devices has been reported[5,6] but using bougie for its removal is unique.

Case Presentation

A 74-year-old male diabetic patient was scheduled for elective anterior approach cervical discectomy. Due to potential vulnerability of spinal cord, tracheal intubation was done by using fiberoptic bronchoscope via right nostril (TUOREn O.D 6.5 Ref No. 1.02.04.100T, Henan Tuoren Medical Device, Made in China). After securing the tracheal tube, a nasogastric tube (CH 18 Nasogastric tube, SUPA Medical Devices, Made in Iran) was inserted through left nostril and fixed secondary to surgeon's request since he needed a tactile guide to avoid esophageal damage during procedure.

At the end of surgery when we tried to remove nasogastric tube, it was stocked and did not withdraw beyond the first indicator line. In direct laryngoscopy, the nasogastric tube was not visible in oropharynx so it was probable that it was impinged in nasopharynx. We tried to push it back inside but it was impossible since the tube was flexible. We cut the tube at the third indicator line, then a lubricated bougie (O.D 3.3 mm 10 CH, 700 mm length) was inserted through the tube and pushed it back to oropharynx, and then the knotted tube was withdrawn under direct laryngoscopy via patient's mouth (Figure 1).

Discussion

Nasogastric tube insertion in anaesthetised patients could be either done under direct laryngoscopy with the aid of magill forceps or blind. In comparison with awake cooperating patient, a lack of swallow and flaccid muscles makes nasogastric tube insertion, a challenge in anaesthetised patient. Endotracheal tube could interfere with its passage and divert it from its correct rout. Body heat may soften the tube and make it difficult to push it down the pharynx;

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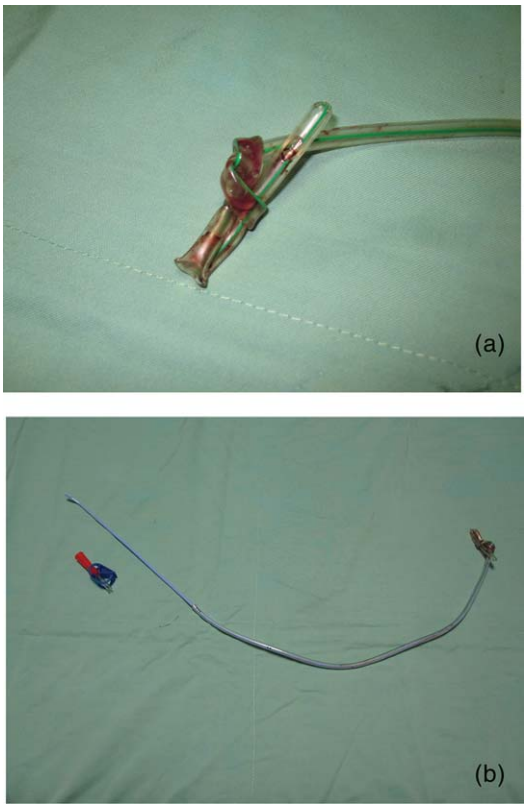

Figure 1 a-b. (a) Knotted tip of nasogastric tube. (b) Bougie advanced thorough cut nasogastric tube.

moreover, saliva might play role as a lubricant to ease its knotting in pharynx or esophagus. Keeping the nasogastric tubes in freezer may decrease the likelihood of softening and knotting. Stocking of knot in nasopharynx can lead to trauma and bleeding.[1] Direct or indirect laryngoscopy during nasogastric tube withdrawal would make a knot visible and prevent its trapping in nasopharynx.

Main Points

- Nasogastric tube insertion, although most of the time easy, could be a challenge in anaesthetised patients since there will not be any patient cooperation.
- Tube knots could form during insertion or removal of them so any resistance against tube removal must be noticed and dealt with caution.
- Tube removal under direct or indirect laryngoscopy could decrease the likelihood of knot stocking in nasopharynx since it could be, directly or indirectly, seen in oropharynx before its transfer to proximal parts of its passage.
- If stocked in nasopharynx, it could not be turned back due to its flexible nature.
- A lubricated pediatric size bougie could be used as an interior stake to make it less flexible and help the practitioner to drive it back into oropharynx with minimal effort.

Conclusion

When trapped, forceps and fiberoptic devices can be used to remove nasogastric tube.[7] Other approaches have been reported as well in handful of reports about knotted nasogastric tubes, but our approach is unique and has not been reported anywhere. We believe our technique is inexpensive, easy and safe.

Nasogastric tube with guide wire is another way to decrease the likelihood of knotting.

Informed Consent: A written informed consent was obtained from patient who participated in this case.

Peer-review: Externally peer-reviewed.

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Conflict of Interest: The authors have no conflicts of interest to declare.

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