A Novel Endoscopic Technique for Failed Nasogastric Tube Placement

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Abstract

OBJECTIVE: Case report using a portable nasolaryngoscope and plain suture to place a nasogastric (NG) tube at the bedside in a 59-year-old male patient with difficult nasopharyngeal anatomy.

METHODS: Methods include a case report with step-by-step illustrations.

RESULTS: The on-call otolaryngology resident was consulted and found the patient with the NG tube imbedded in his adenoid remnant. As a result of the patient’s short anterior-posterior nasopharyngeal dimension, an atraumatic method of guiding the tube was fashioned. The nasolaryngoscope and suture were used in a repeated pull-through technique to thread the NG tube into a position from where it could be advanced into the patient’s esophagus.

CONCLUSIONS: Direct visualization of nasopharyngeal anatomy gives the otolaryngologist a unique advantage for managing difficult anatomy. This novel technique for placing a NG tube is easily employed by a resident armed with a portable nasolaryngoscope and plain suture.

Methods and Materials

- The patient’s oropharynx was anesthetized with aerosolized 4% lidocaine/0.05% oxymetazoline.
- The nasolaryngoscope was passed through the nose and into the posterior oropharynx.
- The distal scope was grasped with DeBakey forceps and drawn out of the mouth.
- Plain Vicryl suture was tied to the end of the scope (Fig 2a).
- The scope and suture were then withdrawn from the nares. The suture was cut and tied to the NG tube’s distal port (Fig 2b).
- The tube was then advanced under direct visualization via the opposite nares and stopped short of the adenoid remnant.
- Gentle tension on the suture deflected the tip inferiorly (Fig 2c).
- Once clear, the NG tube was advanced into the oropharynx and out of the mouth.
- The suture was cut, and the tube was directed into the hypopharynx (Fig 2d).

Discussion

- Various direct methods describe joining a NG tube and a flexible endoscope in parallel with a dissolvable gel cap at the tip 1, or with dissolvable suture 2,3, which, in turn, limit the size of tube that can be passed into the nose.
- Technologically advanced methods describe various Seldinger techniques using a multi-channel operating gastroendoscope and a guide wire 4, or using video fluoroscopy to visualize guide-wire localization past anatomical obstructions 5. However, this equipment is technically cumbersome and difficult to arrange in the middle of the night.
- These methods are beneficial where anatomical derangement requires guided visualization through the pharynx and into the esophageal inlet.
- For the clinical application, in this case, guidance was only needed past the nasopharynx, allowing the use of this novel method which was simple, quick to employ, and resulted in no decrease in NG tube size.

Conclusions

- This alternating pull-through technique uses plain suture to overcome difficult nasopharyngeal anatomy.
- It is rapid, atraumatic, and easily employed at the bedside.
- This method capitalizes on the otolaryngologist’s familiarity with nasopharyngeal anatomy and portable nasolaryngoscope.
- This technique will hopefully reduce painful iatrogenic encounters and improve patient care.

References


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