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Case Report

A looped nasogastric tube impacted in nasal cavity: a case report

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ABSTRACT

Use of nasogastric tubes is a common practice in modern medicine. However, their use entails various complications. At the same time these tubes need regular care and maintenance. Negligence regarding the same can add to the list possible complications. We report a case of an uncared and ignored nasogastric tube in a 22-year-old female which developed a loop and later got impacted in her nasal cavity during tube removal. The patient was referred to the on-call emergency otorhinolaryngology team who attended the patient immediately and assessed this rare complication. Routine tube removal could not be achieved. The tube was then promptly removed by endoscopic guidance under general anaesthesia. The nasal cavity had minimum bleed under endoscopic guidance and removal under vision was achieved. Such cases of nasogastric tube complications underline the importance of tube care as well as the precautions to be taken during their insertion and removal.

Keywords: Otorhinolaryngology, ENT, Nasogastric tube, Foreign body, Nasal endoscopy

INTRODUCTION

A nasogastric tube (NGT) has a variety of uses in medical practice and in the management of critically ill patients which include enteral feeding, administration of medications, stomach content aspiration, stomach decompression and even during surgery to locate the oesophagus.[1,2] Once inserted, the position of the tube must always be confirmed by using plain film radiography to visualise the tip of the tube inside the stomach.[3]

As with any procedure, many complications have been reported with the use of NGTs. Complications can be classified as 'insertion related' or 'tube related'. The 'insertion related' complications include- nasal ulceration and epistaxis, trauma to pharynx, larynx, oesophagus or gastric wall, pulmonary insertion with aspiration, intracranial misplacement or perforation or stricture formation. The 'tube related' complications include- tube block, knot formation, tube breakdown to mention a few.[3,4]

The tube related complications can be avoided by proper care of the NGT after insertion. Certain protocols have to be adhered to after an NGT is placed in situ. The position of the tube should be rechecked once every 24 hours and especially after an episode of vomiting or coughing. An NGT needs maintenance like tube flushing before and after feeds to prevent blockage and a prolonged NGT use warrants changing the NGT itself to prevent overuse of a single tube.[5] Proper education regarding the tube should be imparted to the nursing staff as well as to the patient and relatives.[5] Early signs of an impending complication can be noticed and prompt action can be taken.

Here we present a case of a 22-year-old female with a poorly maintained and ignored NGT, which during removal got impacted in her nasal cavity.

CASE REPORT

A 22-year-old female patient was referred to the otorhinolaryngology emergency team at a tertiary care

government medical college in Mumbai. The patient was a known case of intracranial tuberculoma who was put on NGT feeds for the past 3 months. However, the relatives of the patient switched her to oral feeds at her home and did not pay attention to the NGT present in her left nasal cavity. The oral feeds continued for a period of another one month after which the patient came back for routine follow up to her treating neurosurgery team. The unused NGT had now become completely rigid and opaque giving an orange colour to the entire tube. Removal of the NGT was attempted however only partial tube removal was possible after which the tube appeared to be stuck in its path and the patient developed severe pain on any attempts of removal.

The patient was immediately referred to the emergency otorhinolaryngology team. On examination, we noticed that majority of the tube had already been successfully removed and that the oropharynx showed no evidence of the NGT tube which indicated that the tube was impacted into the nasal cavity. Neither removal nor reintroduction of the tube yielded any movement in the position of the NGT. Liquid paraffin was instilled into the left nasal cavity and removal was attempted after a waiting period of half an hour. However, the NGT would not move from its position and the patient continued to have pain and she eventually became very apprehensive and un-cooperative for further removal attempts.

A diagnostic nasal endoscopy was then performed under topical anaesthesia and the NGT was visualised to be looped and impacted between the middle and inferior turbinates laterally and the nasal septum medially (Figure 1). The decision to remove the tube under general anaesthesia was then taken, given the anxious nature of the patient and the possible need for turbinate trimming to remove the impacted NGT.

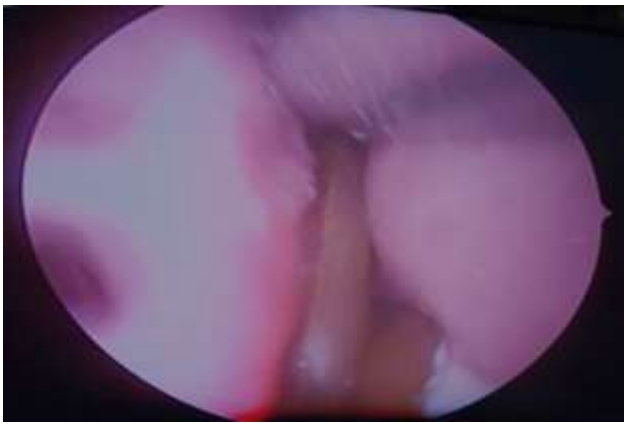

Figure 1: Impacted NGT on nasal endoscopy.

Under general anaesthesia, a zero-degree nasal endoscope with a camera and light source system was used to perform the removal. The left nasal cavity was decongested and the curved end of an elevator was first used to hook into the loop and disengage the impacted part (Figure 2). However, this was unfruitful and led to mild bleeding in the nasal cavity. On further decongestion, a part of the loop was visualised to be engaged into the middle meatus. The anterior ethmoidal air cell lamellae were removed (Figure 3). This led to the dislodgement of the tip of the NGT with the eye of the NGT tip now being visualised (Figure 4). An attempt to remove the NGT was further done however it still remained impacted in place.

Figure 2: NGT removal attempted with instrument.

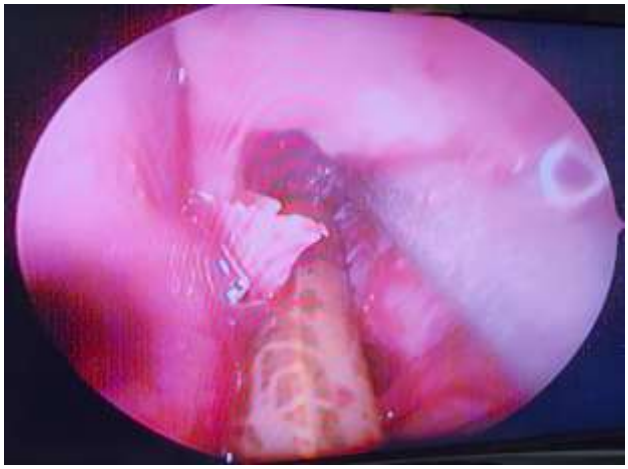

Figure 3: Ethmoidal air cell lamellae removed.

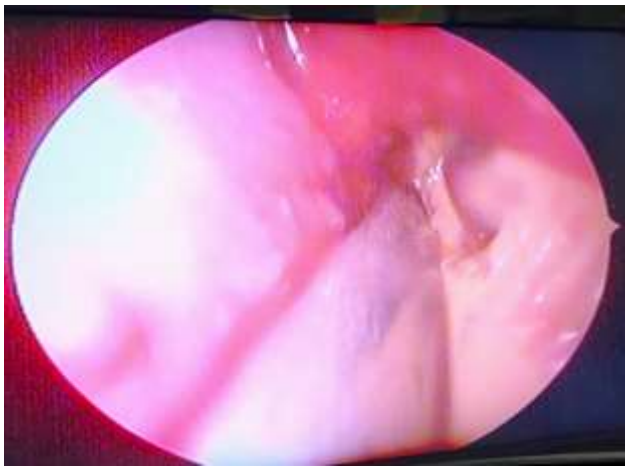

Figure 4: Tip of NGT disimpacted.

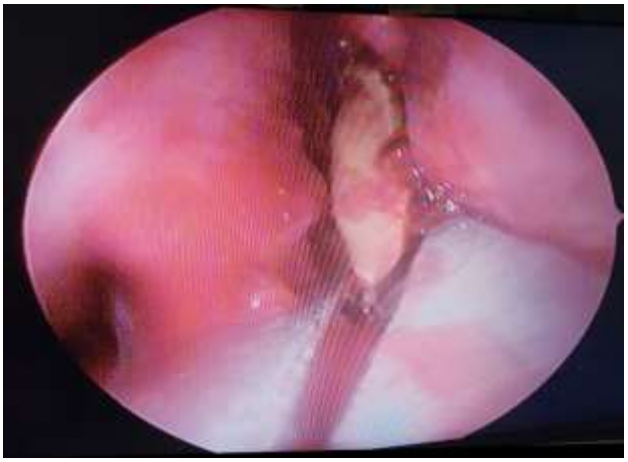

Figure 5: NGT loop cut with scissors.

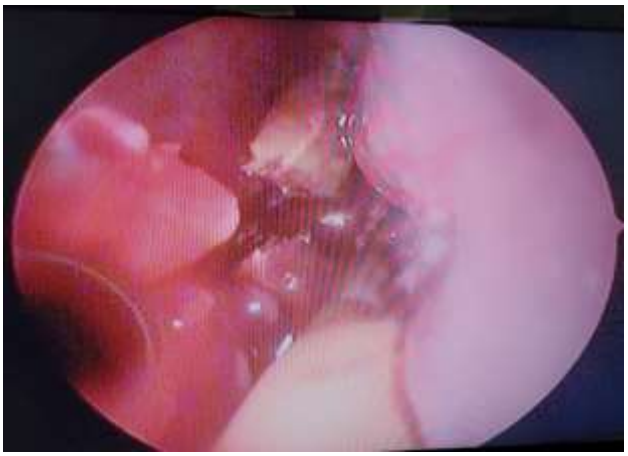

Figure 6: Two parts of the loop after cutting.

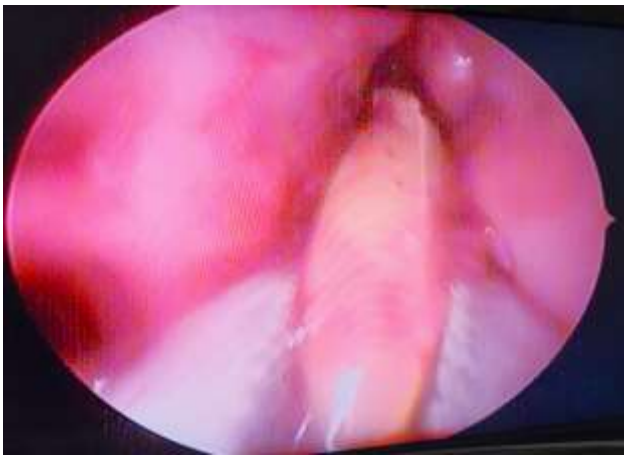

Figure 7: Tip of NGT removed with straight forceps.

With the tip now free, the loop of the stuck NGT was cut with scissors (Figure 5) and the two segments were separated (Figure 6). The tip was then removed (Figure 7) with only the loop remaining in the nasal cavity (Figure 8). Further decongestion was done and the tube was then twisted and with gentle traction removed from the nasal cavity. Haemostasis was achieved (Figure 9) and antibiotic-soaked nasal packing was done. Figure shows NGT parts after removal (Figure 10).

Post-operative period was uneventful and the nasal pack was removed after 48 hours and the patient was started on nasal douching and liquid paraffin drops. On follow up patient developed no major structural changes in her left nasal cavity.

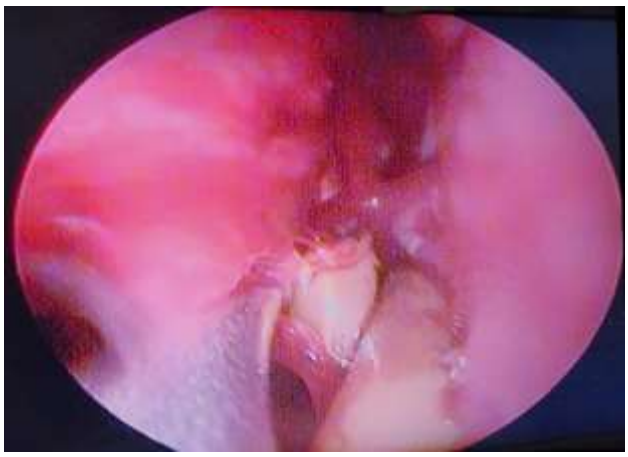

Figure 8: Impinged remaining segment of NGT.

Figure 9: Nasal cavity after NGT removal.

Figure 10: NGT after removal.

DISCUSSION

Nasogastric tubes are routinely used in clinical practice and due to the element of blindness in the procedure one must be aware of the various complications possible during insertion, routine use and removal.[1] Risk factors for complications include the use of thinner or longer tubes or prolonged tube placement and even dry nasal or nasopharyngeal mucosa.[6] Successful insertion of a NGT can be confirmed by auscultation, aspiration of gastric contents, observing for cough or dyspnoea or using various radiological modalities.[1,5]

An NGT requires regular care and maintenance and educating the patient's relatives regarding the same is of utmost importance. Sterile water is the best flushing medium; with at least 30ml of water flushed every 6-8 hours and before and after feeds.[5] High pressures or using guidewires to clear blocked tubes must be avoided to prevent tube rupture.[5]

Excessive resistance on tube advancement or removal should cause caution.[6] Further, inspection of the oropharynx for assessment of the tube should be done. Imaging studies can be performed to ascertain the cause for the encountered excessive resistance.[3]

CONCLUSION

A nasogastric tube must be inserted and removed carefully and when in use must be taken regular care of. The patient and relatives must be informed about the complications associated and must be educated about tube care.

If the tube gets stuck during removal, inspection of the nasal cavity and oropharynx is required to locate the site of impaction. As in our case, a young patient who would get anxious, in such a situation, might need removal under anaesthesia. The endoscopic approach used in our case also provided better visualisation and easier removal of the looped and impacted nasogastric tube as well as visualisation of any damage after removal could be done later on.

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