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# Iatrogenic Complications of NG Tube - Accidental Fixation to the Pylorus of Stomach - A Case Study and Review of literature

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# Iatrogenic Complications of NG Tube - Accidental Fixation to the Pylorus of Stomach - A Case Study and Review of literature

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## Introduction

Nasogastric tube is used in almost all the patients for feeding and gastric decompression specially treated for GIT problems or head and neck injury / surgeries for variable lengths of time . It may be used for a few hours in patients with no or minimal GI tract tampering while in others , it is used for a considerably longer time where it is used for temporary drainage . In such cases , the success or the failure of the surgery depends almost entirely on the functioning of the nasogastric tube . How so ever simple it may seem but this apparently harmless use of NG tube comes with a few not so known complications . A number of complications have been reported with the NG tube ranging from iatrogenic nasogastric perforation<sup>(1)</sup> , retained nasogastric tube / stapled NG tube<sup>(2,3,4,5)</sup> , knotted NGT<sup>(6,7,8)</sup> , misplacement into the airways<sup>(9,10)</sup> , even cranial cavity<sup>(11)</sup> in head injury patients , leading to pneumothorax<sup>(12)</sup> , respiratory distress and respiratory tract infections<sup>(13)</sup> , nasogastric tube syndrome<sup>(14,15)</sup> , haemorrhage and mediastinitis<sup>(16)</sup>

## Case Report

A 47 yrs old male labourer from West Bengal was referred from a private hospital for inability to remove the NG tube which was placed after surgery for gastric perforation . Two NG tubes were placed intra operatively . The first one in the stomach for evacuation and the second in the jejunum to start early feeding .The NG tube placed in the stomach was withdrawn on the 5<sup>th</sup> post operative day while attempts were made to withdraw the one placed in jejunum on the 12<sup>th</sup> day which were unsuccessful . The patient complained of acute pain in the mediastinum and epigastric region while attempting to remove the NG tube . The patient was referred for NG tube removal . X ray chest (PA) and X ray abdomen (AP erect ) were done to identify the location of the tube . When the position of the tube was confirmed to be in the Jejunum a OGD was advised On OGD the NG tube was found to be tightly secured at the pylorus

with a silk thread . The tube would have come in the bite while trying to suture the anterior wall of the perforation and got fixed at the site of perforation .

Endoscopic removal of the tube was not tried at this time as the tube was secured by the same knot which was used to hold the omental patch in position , so any manipulation of the knot was avoided at this time . After 2 weeks post operatively , the patient had wound dehiscence of the abdominal wall so the patient was kept on conservative management and a high protein diet to improve his nutritional status and give time for the patch to get properly adhered to the site of perforation . In the meantime re suturing of the wound was done with tensionless sutures . The patient was called again after 3 weeks of surgery to attempt endoscopic removal of the NG tube fixed to the pylorus . The knot was held with the biopsy forceps while gentle traction and rotatory motion was applied to the NG tube which slowly started slipping out of the knot and finally came out of it . The endoscopic cutter could have been used had the NG tube not come out with this effort . The site was checked for any signs of trauma / perforation or bleeding which were not present . The patient was kept on prophylactic antibiotics for 2 days and discharged there after.

## Discussion

Accidental fixation of NG tube is a known complication of abdominal surgery but it is more common with laparoscopic procedures rather than open ones . Before applying the stitches at the site of perforation it is very important to lift up the anterior wall of the stomach or the intestine and make sure that any tube or probe is not coming along with the anterior wall of the stomach or intestine . So it is best to place a non tooth forceps into the perforation very gently so only the anterior wall comes up for stitching while the posterior wall or the tube stays out of the bite .

## Conclusion

Endoscopic technique is a feasible and safe minimally invasive technique to release a retained nasogastric

tube. This option gives major advantages of avoiding a re- operation, as well as the potential general anesthetic complications.

The approach to a case may be open or laparoscopic depending upon the situation and means available but stress should be laid upon the ways to prevent such inadvertent happenings from taking place rather than for measures to take when it has happened .

## Review of Literature

NG tubes may get fixed accidentally in open as well as laparoscopic or robotic surgery . **Sucandy I** et al used the endoscopic cutter for the retrieval of a retained NG tube following a robotically assisted laparoscopic biliopancreatic diversion with duodenal switch . They concluded that the endoscopic approach was better in terms of morbidity of the patient . **Abu – Gazala S** did a retrospective study on NG tube , temperature probe or bougie stapling during bariatric surgery in Israel and concluded that such complications occur more often than are reported . The treatment options may vary depending upon the place and the situation but a preventive strategy including constant communication with the anaesthetist is a more effective method so that the tube could be removed or relocated before stitching or stapling rather than pondering over post op strategies to remove the tube . **Pequignot, A** reported a case of stapled nasogastric tube in a 44 yo female undergoing bariatric surgery . In his case when the NG tube was removed by the nurse on the first post op day it was abnormally short and had staples at the lower end . Surgery had to be performed with pre operative endoscopy in this case . To prevent such mishaps from recurring he suggested the removal of Ng tube before the insertion of caliberation bougie into the stomach .

**Shaaban, H** reported a similar case in 2009 wherein the NG tube got stitched to the stomach accidentally during laparoscopic anti reflux surgery and which was removed in a similar way .

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## Illustrations

### Illustration 1

Endoscopic view of the NG Tube tightly secured to the stomach wall



### Illustration 2

After the removal of the NG tube



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