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# Lariat Loop

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## Abstract

***Insertion of nasogastric tube is one of the commonest clinical procedures. However, very rarely, the tube can coil on itself to form something called a Lariat loop. This is a knot that can cause the tube to get stuck inside the pharynx and can precipitate emergencies like laryngeal obstruction or esophageal rupture. A brief discussion of a case along with the causes and prevention of this complication has been done.***

***Key words: Ryle's tube; nasogastric; Magill forceps.***

## Introduction

Insertion of Ryle's tube for nasogastric feeding is one of the commonest procedures performed in clinical practice. This is done both for admitted patients and in clinic settings or even at home. Usually, this is an extremely safe procedure with minimal complications, if done by trained personnel. However, rarely, serious complications may arise during regular use of this feeding tube. This article describes one such extremely rare complication. There are only a handful of similar reported incidents.

## The report and discussion

A 72-year-old woman in coma was seen by her family physician at home. In view of the Covid-19 epidemic, the family members refused hospitalisation and opted for domiciliary care. Since she was unconscious and her swallowing was deemed unsafe, a nasogastric tube (no. 12) was inserted for enteral feeding. After three days of feeding, it was found that the tube was blocked and nothing could be aspirated through it. Thus, decision was taken to replace the tube. However, as the old tube was being pulled out, it got stuck after some time and could not be moved further. Any manipulation of the tube led to bleeding in the mouth and fall in $SpO_2$. At this point, inspection of the oral cavity using a tongue depressor revealed that the tube was massively coiled around itself in the posterior pharynx. The patient had to be taken to an emergency room and the tube was extracted, using special forceps, through the oral cavity. The extracted tube showed (Fig. 1) a perfectly formed lariat loop.

The nasogastric tube is a common medical equipment used for gastric decompression, feeding of unconscious patients, or the management of poisoning[1]. Common complications include local ulceration in the nose, misplacement of the tube in the respiratory tract or blockage of the tube[1]. Very rarely, the tube can coil on itself and form a tight knot. This is called a Lariat loop. Predisposing conditions for formation of this loop include narrow bore tube, deep insertion into the stomach and/or frequent manipulations of the tube[1]. In our patient, a no. 12 tube was used, which is quite narrow; also, the technician inserting it had put almost the entire tube inside with only about 15 cm remaining outside the nostrils. These two factors were probably responsible for this loop formation.

While in our case the main problem was blocking of the tube and inability to extract it through the usual route, there may be other serious complications of Lariat Loop[1,2]. These include blocking of the larynx with laryngeal injury and respiratory distress and sometimes, oesophageal puncture. Also, forceful attempts to take out a Ryle's tube with Lariat loop by an amateur care giver may lead to severe nasopharyngeal injury. Excessive traction on the tube will only lead to further tightening of the knot. Thus, when a Ryle's tube gets stuck, the dictum is to stop applying further traction immediately. Then, a lateral skull X-ray may be done, which will show the knot[3]. The tube can be taken out either through the nose or the mouth (as done in our patient) using special techniques. A Magill forceps is generally used for oral extraction of a knotted Ryle's tube under direct visualisation[1].

Some techniques to prevent Lariat loop formation are: using a wide-bore tube, measuring the exact length of tube to be inserted and avoiding too hot liquids through the tube. Hot liquids can cause softening of the tube and predispose to coiling. Since infants are eligible for only the narrowest of tubes, such loops are more likely in the paediatric

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population. Also, if there is resistance while inserting the tube, it should never be forced inside, but rather, expert help should be sought. Although in our case the knot was probably formed during extraction of the tube, similar knots can also form during insertion[4].

Our case reminds one of the fact that any "simple" medical procedure may cause life-threatening complications if basic guidelines are not followed.

***Fig. 1:*** *Figure showing Lariat loop in Ryle's tube taken out from the pharynx.*

## Conclusion

We present this case to sensitize clinicians to this unique and extremely rare complication of nasogastric tube insertion. In the post-Covid era, home care is established as an attractive option for many debilitated patients. Such patients often need interventions like tube feeding at home. But procedures like insertion and extraction of tubes and catheters must always be done by trained professionals to avoid untoward incidents.

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