A Rare and Fatal Case of Nasogastric Tube Intubation Causing Gastric Perforation

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CASE

A 79-year-old female with a history of chronic obstructive pulmonary disease presented to our hospital with a chief complaint of difficulty breathing. She developed worsening respiratory failure, ultimately requiring emergent intubation. Four attempts to pass a soft, 12-French enteral feeding tube with stylet were made. Eventually, placement was successful. Proper placement of the feeding tube was confirmed by auscultating borborygmus over the epigastrium as air was injected into the tube with the catheter-tip syringe. A chest radiograph revealed the feeding tube with the tip overlying the stomach (Figure 1). Enteral feeding was subsequently started. Two hours later, the patient’s abdomen was noted to be rigid and an emergent computed tomography (CT) scan was ordered. The CT scan demonstrated pneumoperitoneum with the tip of nasogastric tube (NGT) appearing to be outside of the stomach with associated pneumoperitoneum (Figure 2).

A surgical consultation was obtained, however, no intervention was recommended given the patient’s high risk of surgical mortality. The patient subsequently developed septic shock and expired. Upon autopsy, the cause of death was attributed to peritonitis due to perforation of the stomach during nasogastric tube insertion.

DISCUSSION

Enteral tube feeding is the preferred method of alimentation in the acute or chronically ill patient. Minor complications of nasogastric intubation include sinusitis, epistaxis and sore throat. More serious complications include esophageal perforation, aspiration, pneumothorax and rarely intracranial placement.1,2 There have been reports by Tsung of small bowel perforation caused by NGT placement.3 However, the cases reported were instances of low birth weight neonates or patients with atypical anatomy. In contrast, the autopsy in our case revealed normal gastric anatomy, with no mention of ulceration. Furthermore, a less rigid NGT was used for placement. Despite these factors, the nasogastric tube perforated the gastric wall.
CONCLUSION
Nasogastric tube placement is very commonly performed in hospitals, however, it is a procedure that can have severe associated complications. Visualization of the descent of the tube below the diaphragm provides proper placement of the NGT. Radiographic evidence of the above is strongly recommended before enteral feeding is started. However, as in our case, radiographs can be misinterpreted. Although NGT placement is a common procedure, healthcare providers must maintain a high level of vigilance for potential complications at all times.

References