GASTRIC PERFORATION FOLLOWING NASOGASTRIC TUBE PLACEMENT

N Sirianni MD, A Bosaily MD, J Tang MD
The University of Toledo, Toledo, Ohio
ProMedica Toledo Hospital, Toledo, Ohio

Introduction

Nasogastric tube (NGT) placement is a common medical procedure with scarce complications. Among the known complications are esophageal perforation, intracranial placement, pneumothorax, and trachea Broncho pleural placement, retropharyngeal hematoma, and vascular injuries, though these are rare[1,2]. Gastric perforation is not among the commonly known complications of NGT placement.

Clinical Presentation

This is a 72-year-old female with no past medical history who was admitted with bilateral pulmonary emboli and new onset A-fib. NGT was placed after she developed ileus and used for enteral nutrition after ileus resolution. Initial placement was confirmed on X-ray. 16 days after placement, she developed abdominal pain, fever, and leukocytosis. CT scan revealed free air and fluid near the posterior gastric fundus with the tip of the NGT through the defect (Figure 1, 2)

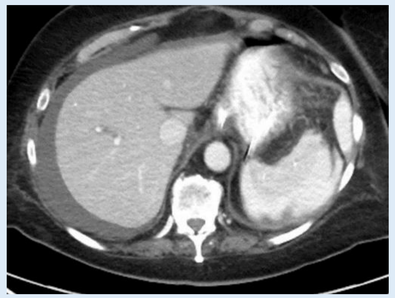


Figure 1. Axial slice of CT scan showing free air along tip of NGT through the posterior fundus



Figure 2. Coronal slice of CT scan showing free air posterior to the stomach

Hospital Course

Due to the clinical and radiologic suspicion for intra-abdominal pathology, the patient underwent emergent exploratory laparotomy. The nasogastric tube was found to be perforating the posterior stomach. She underwent primary repair of gastric perforation with an omental patch (Figure 3)

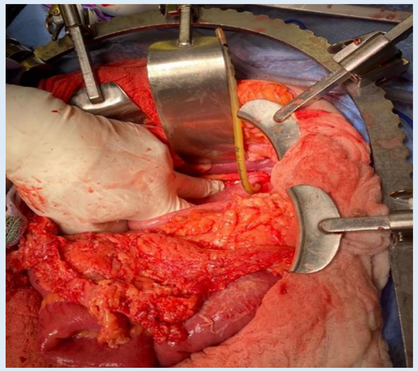


Figure 3. Intraoperative finding of NGT perforation of posterior gastric fundus through 0.5cm defect. No thickening or ulcerative changes at site of perforation.

Discussion

NGT perforation is a complication more often seen in infants than adults, with esophageal perforation during placement being the most common complication. Gastric perforation remains a rare but serious complication, with a total of 12 cases reported in the literature[3].

Several risk factors are theorized to predispose a patient to delayed gastric perforation following NGT placement; severe gastritis, gastric ulceration, necrosis or cancer, previous gastric surgery[4], and chronic steroid use. This patient did not have any of these risk factors.

Discussion

Diagnosis can be made with radiological imaging, but due to the emergent clinical presentation, it is most often diagnosed under direct visualization during laparotomy or endoscopy depend on the hemodynamic status of the patient.

Treatment of gastric perforation necessitates laparotomy and primary repair. Endoscopic clipping with percutaneous drainage is a possible alternative in cases without peritonitis or frank contamination[3].

Conclusion

Despite NGT placement being a common seemingly benign procedure, placement and maintenance in all patients and especially those with risk factors should be carefully monitored. Perforation of any structure in the head, neck, and upper abdomen is possible; gastric perforation should be a differential diagnosis in patients with unexplained peritonitis and previous NGT placement.

References

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Contact: Natalie Sirianni, MD Natsirianni@gmail.com
SAGES 2021, August 31-September 3, 2021, Las Vegas