

A CASE REPORT OF IATROGENIC ESOPHAGEAL PERFORATION: COMPLICATION OF OROGASTRIC TUBE PLACEMENT



MedStar Health

Ashik Pokharel MBBS¹, Yogesh Subedi MBBS¹, Sajja Sharma MBBS², Kalyan Paudel MD³

¹Department of Internal Medicine, Medstar Health Baltimore, USA, ²Nepalese Army Institute of Health Sciences, Nepal, ³Department of Radiology, Medstar Health Baltimore, USA



Introduction

Orogastric tube insertion is a routine procedure in medical care. However, misplacement of the tube can cause a variety of complications, which can be life threatening in some instances.

Case Description

- 71-year-old male presented with dyspnea, fever, chills, cough, and myalgia for 2 weeks.
- **PE:** He had tachycardia, tachypnea, and was hypoxic to 66% in room air.
- He was found to have acute hypoxic respiratory failure secondary to COVID 19 Pneumonia and was admitted to ICU.
- But, he continued to be hypoxic and was started on BiPAP. He eventually became altered and was intubated.
- Post intubation orogastric tube (OGT) placement was unsuccessful on the first attempt due to resistance.
- On the second attempt, the nurse was able to advance partially. But, a chest XR showed OGT in the mediastinum, and OGT was removed.
- CT of neck and chest revealed **pneumomediastinum with possible mid-thoracic esophageal perforation**. The patient was started on broad-spectrum antibiotics and thoracic surgery was consulted.
- Given his mechanical ventilation requirement, surgery deemed him unfit to tolerate thoracotomy and the endoscopic procedure was not available in the hospital. So, recommendation was to manage conservatively.
- His hospital course was complicated by hypotension requiring vasopressors and metabolic acidosis in setting of acute renal failure requiring CRRT.
- Code status was changed by the family to Do Not Resuscitate due to his deteriorating condition.
- Eventually, he had a PEA arrest and was expired.

Images

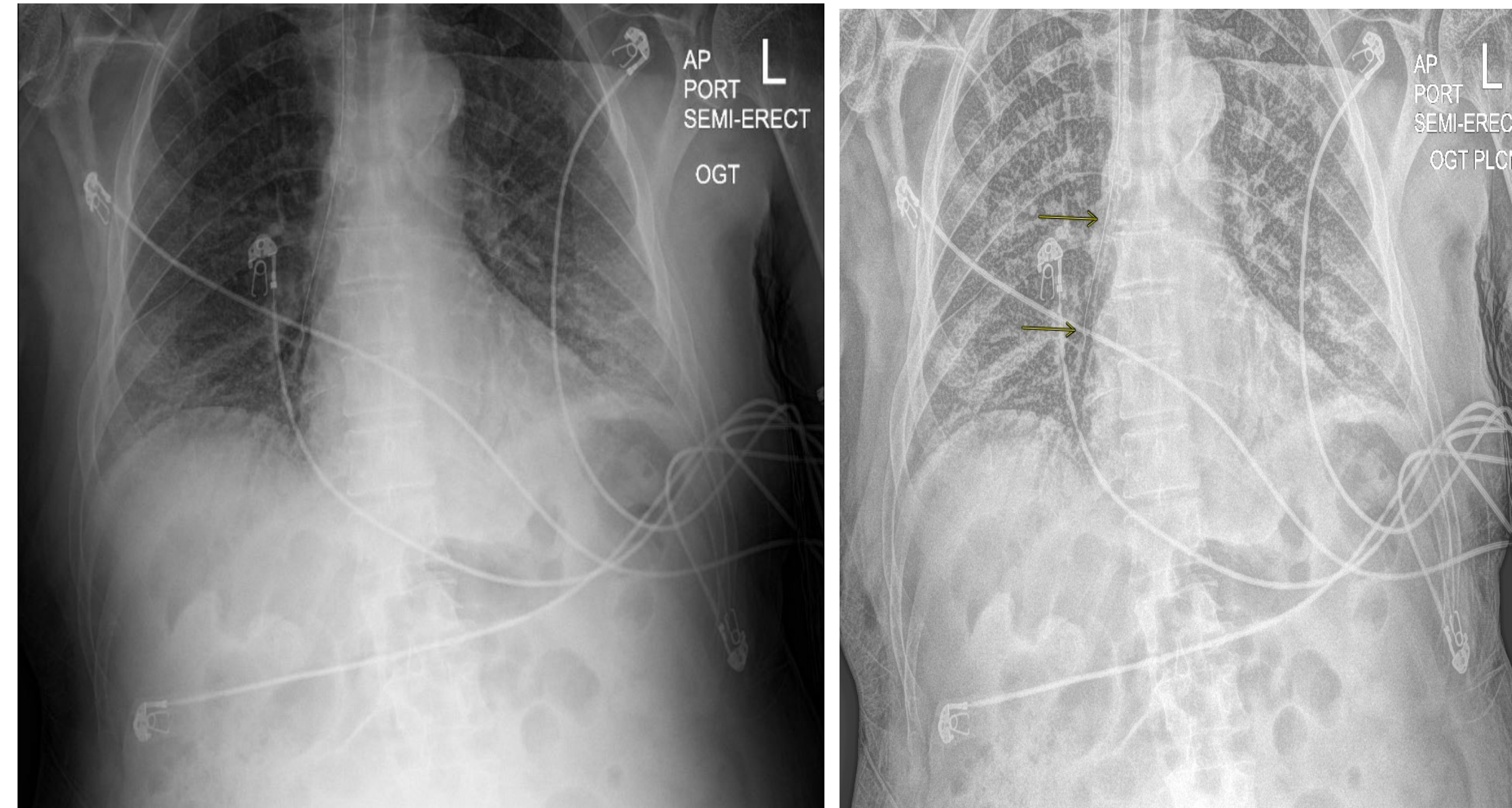


Fig: Orogastric tube lies to the right of the trachea and has its tip adjacent to the right side of the heart. Orogastric tube may have perforated the esophagus and is positioned in the right side of the mediastinum.

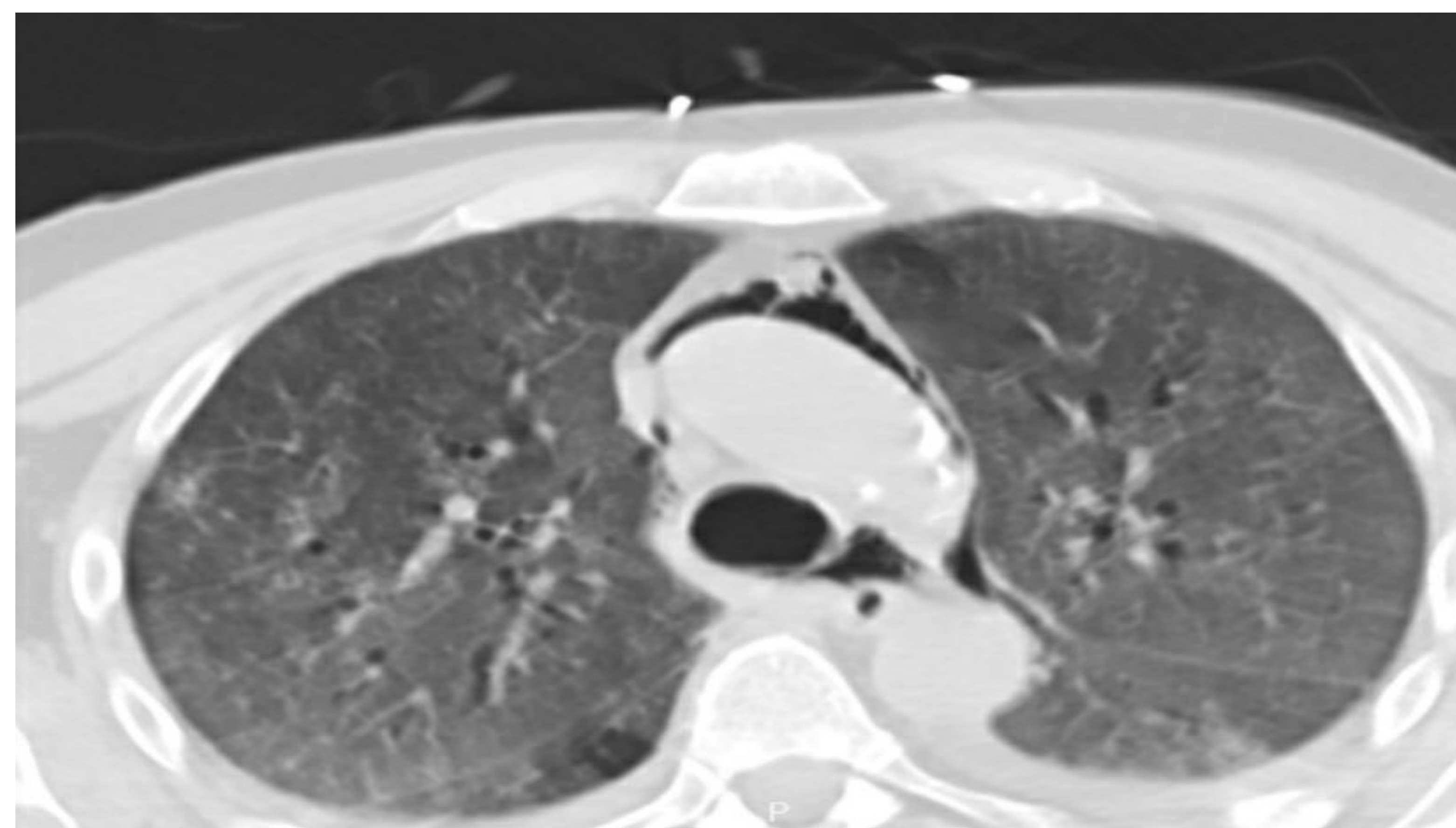


Fig: CT Chest axial view showing pneumomediastinum.

Discussion

- OGT intubation is performed at hospitals for feeding, medication administration or gastric decompression.
- Although it is considered a safe procedure, complications can arise due to OGT misplacement or trauma caused by the OGT itself or the intubation process.
- OGT misplacement is typically endotracheal or intracranial. Misplacement within the upper GI lumen is usually detected by a kink in the oropharynx or esophagus.
- The subsequent complications are identified by the structure that is perforated (e.g., mediastinitis or pneumothorax).
- Regardless of whether counteraction is perceived, the physician must be careful not to apply excessive force.
- The location of the OGT tip should be determined by a chest radiograph; visualization of the tip below the diaphragm verifies appropriate placement.

Conclusion

Complications of OGT insertion are uncommon; however, the consequences are potentially serious, and the anatomy of the upper GI tract should be understood by all who are involved in the care.

References

- Eroglu A, Turkyilmaz A, Aydin Y, Yekeler E, Karaoglanoglu N. Current management of esophageal perforation: 20 years experience. *Dis esophagus Off J Int Soc Dis Esophagus*. 2009;22(4):374–80.
- Kassem MM, Wallen JM. Esophageal Perforation And Tears. *StatPearls*. 2021 Aug Available from: <https://www.ncbi.nlm.nih.gov/books/NBK532298>
- Alflen C, Kriege M, Schmidtman I, Noppens RR, Piepho T. Orogastric tube insertion using the new gastric tube guide: first experiences from a manikin study. *BMC Anesthesiol*. 2017 Apr;17(1). DOI: 10.1186/S12871-017-0343-1
- Ahmed A, Aggarwal M, Watson E. Esophageal perforation: A complication of nasogastric tube placement. *Am J Emerg Med*. 1998;16(1):64–6.