

# A Hit? or A Miss? Learning From Errors: A Misplaced Nasogastric Tube

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A 76-year-old poorly built female presented to the emergency department with right sided acute chest pain and breathlessness after an episode of unprovoked heavily strained vomiting, consisting of food particles and blood streaks. Chest radiograph showed right sided hydro-pneumothorax. Intercostal drain insertion was done immediately, and her symptoms improved. Patient's son noticed rice particles in the ICD bag after she had consumed it for lunch that day. A nasogastric tube insertion was done. The chest radiograph obtained after the insertion showed a peculiar course. The tube did not reach its designated goal, but it helped in diagnosis of occult esophageal carcinoma.

## Case Report

A 76-year-old poorly built female presented to the emergency department with right sided acute chest pain and breathlessness after an episode of unprovoked heavily strained vomiting, consisting of food particles and blood streaks. Patient did not have any co-morbidities and no history of prior respiratory complaints, hospitalization or addiction. On physical examination, she was conscious and oriented with a pulse rate of 108 per min, blood pressure of 110/70mmHg, respiratory rate of 30 per min and oxygen saturation of 75% on room air and 94% with oxygen at 3 liters /minute by nasal prongs. Respiratory examination showed decreased movements on the right side, hyper resonant tone on percussion and reduced breath sounds on the right hemithorax. Other systemic examinations were normal. Laboratory tests including complete blood count (Hb: 9.9, TLC: 8800, Platelet Count: 1.46 lakh), liver function test (Serum Bilirubin: 0.8, SGOT: 48, SGPT: 44, Total serum protein: 5.8, Serum Albumin: 3.0), kidney function test (Urea: 58, Serum Creatinine: 0.7) were normal. Chest radiograph was done which showed right sided hydro-pneumothorax. Intercostal drain (ICD) insertion was done immediately on the right side of chest and her symptoms improved after ICD insertion. The patient's son noticed rice particles in the ICD bag after she had consumed it for lunch that day. A nasogastric (NG) tube insertion was done as a part of further management. The chest radiograph after NG tube insertion (Figure 1).

**Figure 1. Chest Radiograph after Nasogastric Tube Insertion.**

## So, the Question is: Was the NG tube A MISS? or A HIT?

Figure number 1 shows the NG tube in the cervical esophagus which is then tracked towards the right pleural cavity. Even though the NG tube did not reach its designated goal, it actually corroborated our suspicion of esophageal - pleural fistula with certainty. The NG tube was re-inserted which was placed correctly this time and the patient was started on a high protein diet and empirical broad-spectrum antibiotics. We confirmed our diagnosis with contrast enhanced computed tomography (CECT) Abdomen where oral contrast was seen leaking from esophagus

towards the right pleural cavity with an air contrast level suggestive of right sided hydro-pneumothorax with esophageal – pleural fistula (Figure 2A, 2B, 2C).

**Figure 2. A, CT Chest: Oral Contrast Seen in Oesophagus. B and C, CT Chest: Oral Contrast Seen in Oesophagus and Pleural Cavity.**

The patient was sent for the surgical management for esophageal perforation. An endoscopy was performed in the patient by the surgical team. She was detected to have squamous cell carcinoma of esophagus. Her complaints of dysphagia were not addressed earlier owing to old age. Since her general condition was poor, primary repair of esophagus could not be attempted so a feeding jejunostomy tube was placed and the patient was managed conservatively.

Esophageal cancer is an aggressive malignancy with an unfavorable prognosis and an increasing incidence worldwide [1]. The diagnosis is frequently challenging since the typical symptom, represented by dysphagia, occurs only when two-thirds of the visceral lumen is involved. Therefore, the diagnosis is predominantly done in the advanced stages [2]. Locally advanced esophageal carcinoma might eventually be complicated by esophago-respiratory fistula. Although a lot of literature is available on trachea-esophageal fistula or broncho-esophageal fistula, esophageal-pleural fistula in carcinoma esophagus is a rare occurrence. Treatment for an esophageal fistula is imperative, as unmanaged fistulas are associated with high morbidity and mortality secondary to life-threatening complications, including sepsis, lung abscess, or acute respiratory distress syndrome [3]. Palliation of malignant esophageal-pleural fistulas require definitive repair with surgical or endoscopic closure techniques. Spontaneous closure is rare, and many times these critically ill patients are not ideal operative candidates [4]. Currently, the most common treatment for esophageal fistula is esophageal stenting [3, 5]. Long-term complications of stenting, such as stent migration, granulation tissue formation, and retained secretions, are reported [6]. The decision regarding operative vs non- operative therapy is best done by a dedicated surgical team with experience in all the surgical and endoscopic treatment options [7].

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### *Statement of Transparency and Principals:*

- Author declares no conflict of interest
- Study was approved by Research Ethic Committee of author affiliated Institute.
- Study's data is available upon a reasonable request.
- All authors have contributed to implementation of this research.

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