

Iatrogenic true intra abdominal perforation of the esophagus with pathology in the upper esophagus

Dr.Vipul D Yagnik

Consultant Endoscopic and laparoscopic surgeon, Ronak Endo-laparoscopy and general surgical hospital, Patan (Gujarat,India)

ABSTRACT

Iatrogenic perforation is by far the most common cause of esophageal perforation. Intra abdominal perforation of esophagus is very rare especially when pathology is present in upper esophagus. Diagnosis requires high degree of suspicion and it must be confirmed in any patient presented with chest or abdominal pain following esophageal dilatation. The aim of reporting this case is to draw attention that perforation can occur at the site distal to the pathology and endoscopists should be very gentle in performing dilatation. It is advisable to perform dilatation under fluoroscopic guidance and check contrast study should be performed at the end to rule out any adverse event.

KEYWORDS : Esophageal perforation, Endoscopy, Dilatation

Case report:

A 58 years old female patient presented to emergency room with acute abdominal pain following esophageal dilatation for post-cricoid web. Dilatation was performed with rigid endoscope and bougienage 10 hrs back. After dilatation, patient had a complained of abdominal pain followed by distention. Nasogastric tube was inserted without resistance 5 hrs back. Patient had an episode of fever 2 hrs back. Abdominal examination revealed generalized distention with guarding and rigidity. Patient was hemodynamically unstable with temperature of 102 F, Pulse 120/min, and Blood pressure was 90/60 mmhg. She was dehydrated with silent abdomen. Laboratory data revealed leukocytosis with neutrophilia. Gastrograffin study was obtained by operating ENT surgeon which shows free intraperitoneal air with leakage of dye in the peritoneal cavity

(figure 1).



After initial resuscitation, exploratory laparotomy showed nasogastric tube in the abdominal cavity through perforation in the lower end of esophagus just above gastro esophageal junction but below the diaphragm (figure 2).



Closure of perforation with omentopexy was performed (figure 3).



Tube drain was kept. Post-operative course was unremarkable.

Discussion:

Iatrogenic perforation is by far the most common cause of esophageal perforation. It is the most rapidly fatal perforation of the gastrointestinal tract¹. Modern flexible endoscope is remarkably safe, but perforation is known with modern instrument also and should never be forgotten. The American Society of Gastrointestinal Endoscopy survey estimated that the incidence of esophageal perforation by bougienage and metal-olive dilators is 0.4% and 0.6%, respectively. In one study, iatrogenic perforation accounts for 59% and spontaneous was 15 %². Esophagus is more susceptible to perforation as compared to other gastrointestinal organ because it lacks serosal covering. The most common site of perforation during endoscopy is cricopharynx or lower esophagus just above diaphragm, usually at the site of pathology. Intra abdominal perforation of esophagus below the diaphragm is very rare especially when pathology is present in upper esophagus. If intra abdominal perforation is not detected early, it can complicated by peritonitis, sepsis, septic shock, multi organ dysfunction, death. Early diagnosis and treatment are important to prevent morbidity and mortality. The interval between time of perforation and diagnosis is the most important predictor of mortality. Perforation during esophageal dilatation tends to have good prognosis because of early diagnosis and treatment³. Diagnosis requires high degree of suspicion and it must be confirmed in any patient presented with chest or abdominal pain following esophageal dilatation. Diagnosis is often made by finding of free air under dome of diaphragm and extravasations of contrast. There is no scope for conservative management in case of intra abdominal Perforation; it is the indication for surgery⁴. The aim of the

surgery is to remove on going source of contamination or sepsis, control of established infection and re establishment of esophageal continuity. Because of segmental blood supply, Simple closure of perforation is usually not sufficient⁵. A variety of adjacent tissue can be used to buttress such repair for better outcome. We suspected bougienage as a cause of perforation.

- Nasogastric tube was less common cause for perforation as compared to bougienage
- Nasogastric tube was inserted without resistance
- Pain in abdomen followed by distension before insertions of nasogastric tube indicates perforation was not because of nasogastric tube.
- Contaminated fluid and signs of peritonitis were suggestive of old perforation.

Esophageal perforation is uncommon. However; commonest cause of perforation is medical instrumentation. Although perforation with endoscope is common, this case is unique because of following reasons:

Site of perforation is not common. True intraabdominal esophageal perforation in normal esophagus is very rare. Commonly perforation occurs at the site of pathology. In present case, perforation is truly intraabdominal and occurred in normal esophagus.

Conclusion:

Iatrogenic perforation of the lower esophagus is rare entity especially when pathology is present in the upper esophagus. High index of suspicion is required for the diagnosis and early treatment. Early diagnosis is very important to avoid morbidity and mortality associated with condition. Contrast study confirms the diagnosis. Surgery is the mainstay of treatment. This case emphasize the need of performing esophageal dilatation under fluoroscopic guidance and advisable to go for check contrast study at the end of procedure.

REFERENCES

1. Saley WC. Rupture of the esophagus. *Am J Surg* 1963;105:505-10 | 2. Brinster CJ, Singhal S, Lawrence L, et al. Evolving options in the management of esophageal perforation. *Ann Thorac Surg*. 2004;77:1475. | 3. Sawyer R, Phillips C, Vakil N. Short- and long-term outcome of esophageal perforation. *Gastrointest Endosc* 1995;41:130. | 4. Altorjay A, Kiss J, Voros A, et al. Nonoperative management of esophageal perforations. Is it justified? *Ann Surg*. 1997;225:415. | 5. Glatterer Jr MS, Toon RS, Ellestad C, et al: Management of blunt and penetrating external esophageal trauma. *J Trauma Injury Infect Crit Care* 1985; 25:784. |