



EARLY DIAGNOSIS AND SURGICAL MANAGEMENT OF BOERHAAVE'S SYNDROME

Surgery

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ABSTRACT

Background: Sudden oesophageal rupture brought on by severe straining is known as Boerhaave's syndrome. When vomiting occurs forcefully or repeatedly, that's when it usually happens. Toxic contents can seep out and lead to infection when the oesophagus tears. It's an emergency. In just a few days, it could be deadly if left untreated. **Methods:** Since the patient arrived so early (less than 12 hours), primary surgical repair was performed on him. The recommended surgical technique was a left thoracotomy, and open surgery was chosen. **Results: Conclusion:** The principal goals of surgery are to restore the oesophagus and empty the thoracic collection. Planning is required for the postoperative nutrition regimen. Early diagnosis and surgical intervention are key components of the optimal care of Boerhaave's syndrome.

KEYWORDS

Boerhaave's syndrome, Early diagnosis, Surgical management

INTRODUCTION

Spontaneous rupture of oesophagus was first described by Dr Herman Boerhaave in 1724.¹ Boerhaave's syndrome usually follows retching and forceful emesis. Mallory-Weiss syndrome, a non-transmural oesophageal tear also linked to vomiting, should be differentiated from Boerhaave's syndrome, a transmural oesophageal perforation. Boerhaave's syndrome is usually not completely spontaneous because the perforation is accompanied by emesis; however, this term serves to differentiate it from iatrogenic perforation. The most frequent cause of this syndrome is vomiting, but it can also be brought on by any activity that raises intraesophageal pressure. Patients with a normally functioning oesophagus may also experience this condition, but a subgroup of patients has specific oesophageal abnormalities or pathology that is linked to the condition. Of all oesophageal perforations, 10% to 15% are caused by Boerhaave's syndrome.² Because of the wide variation in presentation, diagnosis of this condition can be difficult and involve an index of suspicion. The Mackler triad of vomiting, chest pain, and subcutaneous emphysema is traditionally linked to Boerhaave's syndrome. With a mortality rate of up to 60% with intervention and nearly 100% without, Boerhaave's syndrome is among the deadliest gastrointestinal tract disorders.³ Treatment varies and is based on the patient's clinical status at presentation as well as the time of diagnosis. Options for treatment include major surgical resection and conservative management.⁴

CASE DETAILS

A 30-year-old man presented to the ER with a history of epigastric pain of 10 hours duration. There was no history of retching or vomiting. At presentation, he was stable hemodynamically. On palpation, there was tenderness in the upper abdomen, and subcutaneous emphysema in the chest and upper abdomen. Breath sounds were decreased in the left thorax.

CECT Chest and Abdomen showed a leak of contrast from the lower end of the esophagus (fig 1), collection of contrast in the left thoracic cavity (fig 2), pneumomediastinum, and subcutaneous emphysema.

SURGICAL MANAGEMENT

As the patient had presented early (<12 hours), he was taken up for primary surgical repair. Open surgery was preferred and left thoracotomy was the surgical approach. The pleural and mediastinal collection was drained and irrigation was done. The rupture site was the lower end of the esophagus on the left posterior wall extended for about 3cm. The length of the rupture was extended slightly to expose the entire length of the rupture in the mucosa. The necrotic muscle was excised. Primary repair was done and fundic reinforcement of the repair was done. ICD tube was placed and closure was done. After oesophageal repair, feeding jejunostomy for post-operative nutrition. Feeding jejunostomy was done to take care of postoperative nutrition.

day to confirm that there was no leak from the oesophagus. The patient was started on oral feeds from the 8th postoperative day.

The patient was kept in the ICU for 2 days; ICD was removed on the 3rd day and he was discharged on the 8th day. The postoperative period was uneventful. (Fig 3 & 4).



Figure 1: Leak Of Contrast From Oesophagus Into Mediastinum

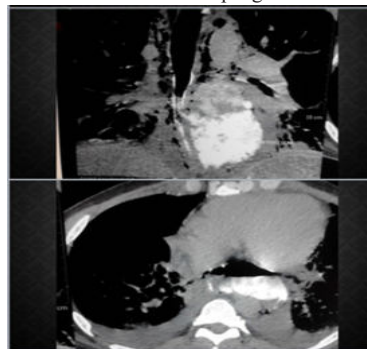


Figure 2: Collection Of Contrast In The Mediastinum

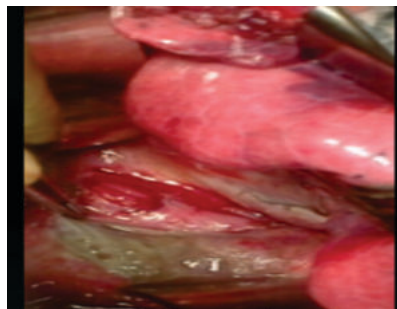


Figure 3: Tear In The Oesophagus

CECT of the thorax and abdomen was done on the 7th post-operative



Figure 4: Repair Of The Tear In The Oesophagus

DISCUSSION

Boerhaave's syndrome is said to follow the consumption of a large meal or a heavy bout of drinking. The classic triad i.e. Mackler's triad - retching, chest pain, subcutaneous emphysema is rarely seen. The site of rupture is usually seen in the lower third of the esophagus, the left posterior wall about 3-4 cm above the cardia.⁵

Complications like sepsis and mediastinitis result from a delayed diagnosis brought on by vague symptoms. Mortality can reach 50% depending on how long it has been since the patient presents at the hospital.⁶ CECT is the best diagnostic modality with an accuracy of up to 95%. Endoscopy also has high specificity and sensitivity but carries the risk of enlarging the rupture and worsening the pneumomediastinum.^{7,8}

Surgery, endoscopy, and conservative management are the available treatment modalities. The duration, site, and degree of the rupture, as well as the contamination, all influence the treatment option selection. The fundamental ideas still apply: prevent infection from spreading, try to fix problems initially, make sure there's enough drainage, and use efficient antibiotics. In cases of delayed diagnosis without contamination, endoscopic stent placement is performed to seal the oesophageal leak and prevent fistula formation.⁹

Debridement of the mediastinum and pleural cavity, oesophagostomy, and feeding jejunostomy are performed in cases of late diagnosis and extensive contamination. Supplementing with nutrition requires planning. If primary surgery is done within the first 24 hours, whether it is thoracoscopic or open, the results are optimal. The benefits of thoracoscopy include early mobilization and shorter hospital stays. The chance of post-operative complications decreases with decreasing time interval.¹⁰

CONCLUSION

Surgical principles mainly are repair of the oesophagus and drainage of the collection in the thorax. The mode of nutrition in the postoperative period has to be planned. The foundation for the best management of Boerhaave's syndrome is early diagnosis and surgical intervention.

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