Case study

Boerhaave Syndrome: an unusual complication of Retropharyngeal Abscess.

Abstract

Introduction: Boerhaave's syndrome is a rare entity and it results from increased intraluminal oesophageal pressure following sudden forceful vomiting. Most common presentation of BS is sudden onset Retrosternal and/or epigastric pain following vomiting and CT scan is the investigation of choice. Most common site of perforation is in the posterolateral aspect of the distal oesophagus and surgical intervention is the gold standard approach for treating BS. Case detail: A 27 years old male presented with dysphagia and throat pain. 6 hours after the admission patient had multiple episodes of vomiting. Videolaryngoscopy revealed posterior pharyngeal wall ulcer. CT scan of neck shows features suggestive of rupture retropharyngeal abscess. After 24 hours patient developed respiratory distress and chest X-ray revealed right side pleural effusion. CT scan confirmed Boerhaave's syndrome and patient was managed conservatively. Discussion: if diagnosed within 24hours surgery carries 90% success rate but the main concern is the diagnosis and management of late presented cases. Conservative management and adequate drainage of pleural cavity is the mainstay of treatment in such cases. Conclusion: Due to its non specific presentation BS is difficult to diagnose. In our case there was a little delay and due to patient's poor general condition we managed with conservative treatment.

TEXT PAGE:

INTRODUCTION:

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Spontaneous rupture of the oesophagus or Boerhaave syndrome (BS) is a rare and fatal entity [1]. Sudden forceful vomiting leads to increase intraluminal oesophageal pressure resulting in transmural tear [2]. BS classically presents with sudden onset of severe Retrosternal and/or epigastric pain following vomiting [3]. Most common site of tear is in the posterolateral aspect of the distal oesophagus [4][4]. Surgical intervention is the golden standard treatment irrespective of the duration of the perforation [5].

Here we present a case of Boerhaave syndrome developed following repeated episode of vomiting in a patient with retropharyngeal abscess.

CASE REPORT:

A 27 year old male presented with complaints of throat pain, dysphagia for 1 week. It was associated with productive cough and fever. Severity of Pain and dysphagia increased persistently. On initial assessment patient had tachycardia, temperature of 101F, poor general condition with oral candidiasis. After admission patient had spontaneous onset of several episodes of vomiting. There was no history of over indulgence of food and alcohol consumption. Patient was kept nil per oral along with other conservative measures. Videolaryngoscopy (VL) reveals a large ulcer on the posterior aspect of pharyngeal wall with slough (figure 1 a). CT scan Neck was advised which showed features suggestive of ruptured retropharyngeal abscess (figure 2). After 24 hours the patient developed chest discomfort and breathing difficulty. On examination air entry was reduced on right basal area along with bilateral crepitus on auscultation. Chest X-Ray showed right pleural effusion. Pleural fluid was turbid and analysis was negative for AFB. Chest tube was placed accordingly and after stabilisation CT scan of thorax was done based on the nature of fluid draining from intercostals drainage tube and high level of suspicion. The fluid was turbid with thick sediments. CT scan showed contrast leak and the diagnosis of Boerhaave syndrome was established. Due to delayed diagnosis and poor general condition we followed conservative management. Repeat VDL shows large ulcer in the posterior pharyngeal wall

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with exposed paravertebral muscles. Feeding jejunostomy (FJ) was done under local anaesthesia and subsequently feeding was started along with oral care and other conservative management. Patient was discharged with proper explanation of chest tube care and chest physiotherapy and advised to review after 1 month. Patient came for review after one and half month and repeat CT scan shows no evidence of contrast leak and healing pharyngeal wall ulcer with vocal cord paresis on VL. Oral trial feed was started and chest tube was removed after confirming no leak. Posterior pharyngeal wall ulcer was healed and vocal cord paresis was improving on subsequent follow up after 3 months (Figure 1 b). 6 months follow up shows no vocal cord paresis and healed pharyngeal wall. Patient was tolerating orally both solid and liquid diet and his general condition also improved with no voice change.

DISCUSSION:

Dutch admiral BJV Wassenaer died after self induced vomiting during a feast. According to the autopsy there was a full thickness rent in the lower oesophagus with odour of the roast duck he had during the feast. Spontaneous rupture of the oesophagus is termed as Boerhaave syndrome after Dutch Physician Hermann Boerhaave who first described this condition in 1724 [2].

BS is a rare condition and accounts for 10% of all oesophageal perforation. It is commonly seen in males between 50 – 70 years[3]. The most common site of perforation is in the left posterolateral aspect of the distal oesophagus because of the anatomical weakness due to different muscle fibre orientation at the gastro-oesophageal junction region [2].

BS has Variable and non specific presentation [2, 3]. Most common presentation seen in BS are sudden onset Retrosternal and/or epigastric pain following vomiting whereas Mackler's triad (chest pain, vomiting, subcutaneous emphysema) or Anderson triad (subcutaneous emphysema, tachypnoea, abdominal rigidity) and other symptoms and sign associated with

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BS are seldom seen [3]. Non specific symptoms in BS mimic clinical conditions like myocardial infarction, pulmonary embolism, dissecting aorta, perforated peptic ulcer, pancreatitis pneumonia etc resulting in a delay in diagnosis [4].

A high index of suspicion is crucial for the timely diagnosis of BS. Chest X-ray (CXR) should be the scout investigation for suspected case of BS. In case of early presentation CXR can be normal (15%). CXR finding of BS are subcutaneous and/or mediastinal emphysema, mediastinal widening, pleural effusion (specifically rapidly developing or evolving effusion), pneumothorax, hydrothorax, intrathoracic air-fluid levels or masses or V-sign (radiolucent streak of air dissecting the retrocardiac facial planes [4]. Leak of contrast material in Contrast oesophagogram confirms the diagnosis but now it has been replaced by CT scan [3]. CT scan not only confirms the diagnosis but excludes other causes of chest pain. Abnormalities seen in BS are extraluminal air, perioesophageal fluid, oesophageal thickening and extraluminal contrast [2].

Mortality rate in BS is high and directly related to the duration of the perforation and it is figured as >56% after 24hours and 75-89% after 48 hours [6].

Management of BS depends on duration of the perforation, severity, age, condition of the patient and the location of the perforation. If presented and diagnosed within 24hours primary repair of the oesophageal rent along with mediastinal and chest drain gives a success rate of 90%. Primary repair in late presentation are usually associated with high incidence of leakage due to septic complications (severe inflammation, crumbly tissues, purulent infection and necrosis) hence adequate drainage of mediastinum and pleural cavity is considered the best option [5, 7].

Management of BS can be divided in:

a. Surgical management
b. Conservative management
c. Endoscopic management

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Surgical management can be performed by either open or by minimally invasive approach. Minimally invasive approach is suitable in early presentation with stable hemodynamics and in the absence of septic complications. Surgical options are ranging from debridement and drainage of mediastinal and pleural cavity to resection of oesophagus. Minimally invasive approach is always considered better especially in critically ill patients however open repair and drainage are still considered as the gold standard treatment [4, 5].

Conservative approach is suitable in patients with well contained perforation without the signs of sepsis. It includes cessation of oral intake, administrations of intravenous fluids and parenteral nutrition or feeding from nasogastric tube or feeding jejunostomy, broad spectrum antibiotics, mediastinal and pleural cavity drainage [4, 5].

Endoscopically self expanding stent can be placed over the oesophageal tear. Though it is a promising newer modality one article reported that it offers no advantage over surgical management and is associated with frequent treatment failure that eventually requires surgical intervention. This approach is also indicated in patients with early presentation without septic complications [4, 5].

Most Pharyngeal perforation can be managed conservatively if it is confined and uncomplicated [8]. In our case also we managed the patient conservatively which consist of adequate nutrition, oral and wound care, proper antibiotic, PPI and chest physiotherapy.

Conclusion: Diagnosis of Boerhaave syndrome is very difficult if there's no high index of suspicion. There are no issues with the management if diagnosed early but problem arises when it is diagnosed late. In our case there was no history of over-indulgence of food or alcohol. We don't know what triggered the vomiting but it was the abscess collection which might have obstructed and increased the intra-oesophageal pressure leading to Boerhaave syndrome. Proper nutrition along with other conservative managements and drainage should be followed for all delayed presented case of Boerhaave syndrome.

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Compliance with Ethical Standard:

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FIGURES:

Fig 1 Videolaryngoscopy (VL) picture showing rent in the posterior aspect of the pharynx (a) and repeat VL after 3 months (b) showing healed posterior pharyngeal wall.

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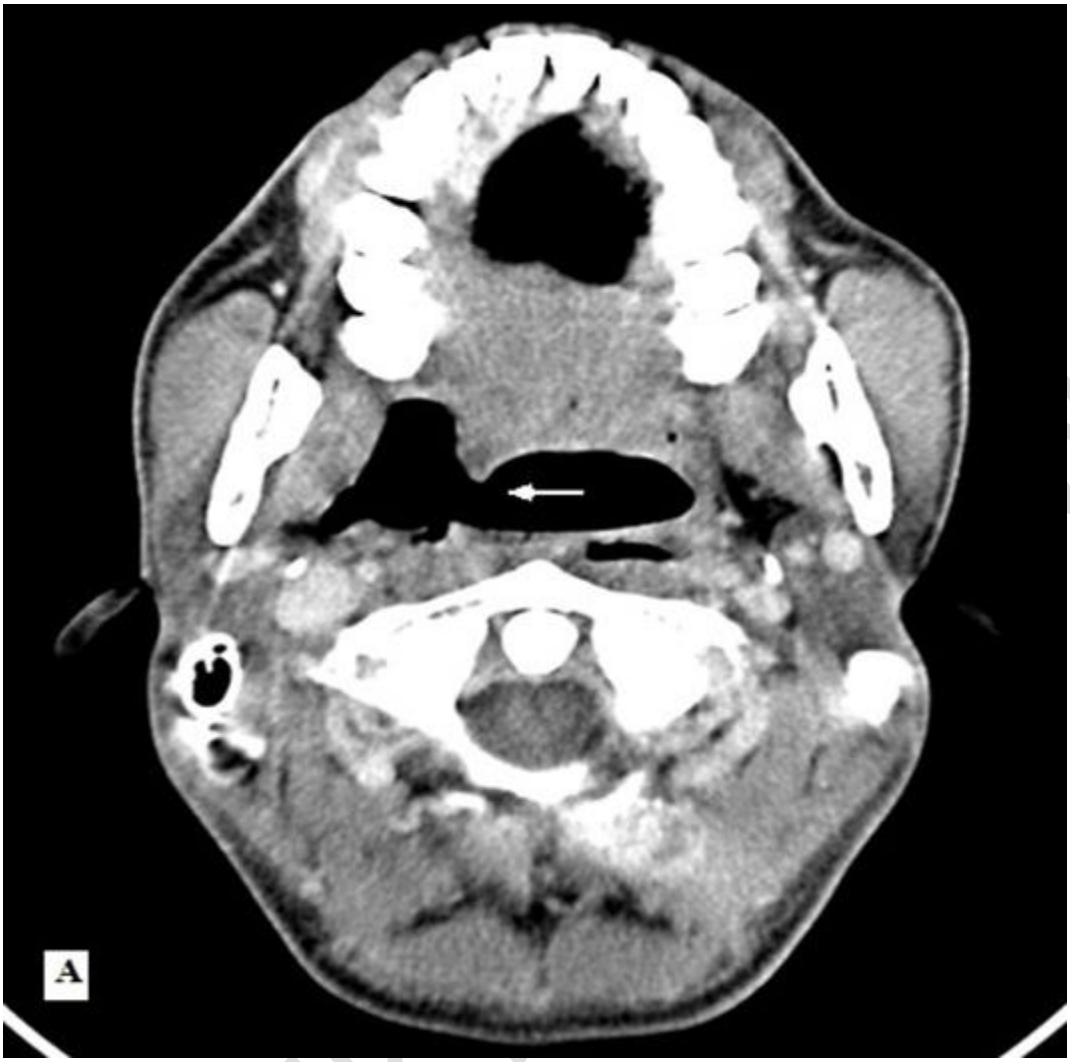

Fig 2 CT scan of neck showing rent in the right posterior aspect of the pharynx (white arrow).

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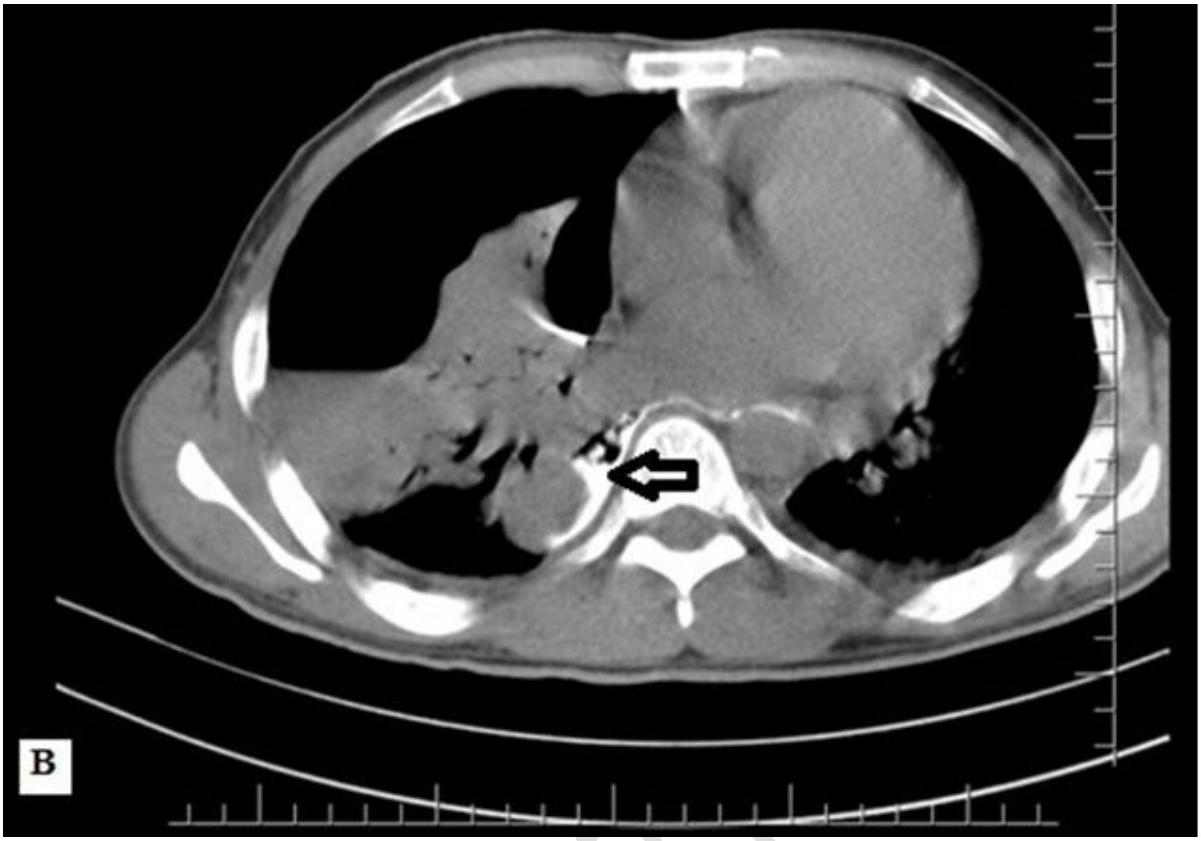

Fig 3 CT scan thorax showing contrast leak (Black arrow)

LEGEND:

Fig 1 Videolaryngoscopy (VL) picture showing rent in the posterior aspect of the pharynx (a) and repeat VL after 3 months (b) showing healed posterior pharyngeal wall.

Fig 2 CT scan of neck showing rent in the right posterior aspect of the pharynx (white arrow).

Fig 3 CT scan thorax showing contrast leak (Black arrow)

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