Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/19045
DOI URL: http://dx.doi.org/10.21474/IJAR01/19045

RESEARCH ARTICLE

DELAYED PRESENTATION OF A TRAUMATIC ESOPHAGEALPERFORATION& THE PHYSICAL AS WELL AS MENTAL BURDENASSOCIATED WITH IT

Aisvarya Girotra Kapoor

Manuscript Info

Manuscript History
Received: 07 May 2024
Final Accepted: 14 June 2024
Published: July 2024

Abstract

Esophageal perforations are an uncommon entity with an incidence of 3.1 per 1,000,000 per year in the USA. (1).There are numerous causes of esophageal perforations, the commonest ones being iatrogenic (those that occur secondary to esophageal instrumentation - endoscopy or post surgical repairs)and spontaneous(Boerhaave Syndrome). Among all esophageal perforations, the reported incidence of traumatic esophageal rupture varies from 4% to 14%. (2), (3).Esophageal injury following blunt chest trauma is extremely rare (up to 0.1%). (4)Hence , we present a case of a middle aged male who presented to our emergency department withhistory of progressively worseningleft sided chest pain, shortness of breath and lethargy since last 5 days. Chest Xray revealed a large left sided suspected hemo/hydropneumothorax for which an Intercostal drain was placed ; but a large amount of frank purulent discharge was drainedinstead of the anticipated blood/fluid. On further probing , patientrevealed history of blunt trauma to chest12 days priordue to a road traffic accident. The finding of empyema warranted urgent further evaluation. Hence a contrast Computed Tomography scan of the chest was done which revealed an intrathoracic esophageal perforation communicating to the left pleural space. This is a rare and interesting case for a few reasons; Anesophageal perforation secondary to blunt chest trauma is a rare entity, this patientpresented to us after almost 2 weeks of trauma and the presenting symptoms led us to makea differential diagnosis of a post traumatic hydro/hemothorax vs an infected hydropneumothorax / empyema (? Tubercular). Hence, thorough history takingenabled us to take a quick and calculated step to rule inesophageal perforation.

Copy Right, IJAR, 2024,. All rights reserved.

Introduction:-

Esophageal perforations are rare to encounter and tricky to diagnose for the medical team especially emergency physicians. There can be a significant delay in diagnosis and further management causing immense increase in morbidity / mortality.

Common causes of esophageal perforations are iatrogenic, spontaneous, post traumatic or post foreign body impaction. Though a large portion of perforations are iatrogenic, spontaneous perforations are the commonest cause of non-iatrogenic perforations (15% of all esophageal perforations(1)). Boerhaave syndrome or spontaneous

Corresponding Author:- Aisvarya Girotra Kapoor

esophageal perforation, are effort ruptures of the esophagus and occur most commonly as a result ofsevere straining-forceful retching or vomiting.

Treatment modalities are often surgical or conservative, depending upon the time lapsed since diagnosis and the patient's clinical condition at presentation. (7).

Case presentation

We present the case of a middle aged male who presented to our emergency department with history of progressively worsening left sided chest pain, shortness of breath and lethargy since last 5 days.Examination revealed a middle aged patient in moderate respiratory distress with a heart rate of 150 bpm and spo2 94% on oxygen at 6 lit/min, auscultation revealed decreased breath sounds on the left side. chest xray revealed a large left sided suspected hemo/hydropneumothorax for which an Intercostal drain was placed ; but a large amount of frank purulent discharge was drained instead of the anticipated blood/fluid. On further probing , patient revealed history of blunt trauma to chest 12 days priordue to a road traffic accidentafter which he developed lethargy and progressively worsening shortness of breath (trauma was not evaluated as patient did not see a doctor). Patient underwent a Computed Tomograghy (CT) scan of the chest which revealed remnant collection in left pleural space, right sided clavicle fracture and rib fractures (3rd to 8th) – all indicating severity of the blunt trauma to patients chest. Left sidedintercostal drain continued to drain empyematous discharge (~ 2.4litres total) so a CT with oral gastrograffin contrast study was done which revealed a posterolateral esophageal perforation just above the hiatus. Thus revealing the cause of recurrent empyema. The patient then underwent a cervical loop esophagostomy with feeding jejunostomy and gastrostomy at outside centre. Once the esophagostomy was closed, patient developed a esophagocutaneous fistula for which the he was to follow with GI surgery team… but then it was found that the patient tragically took his own life. This reveals the psychological burden thatpatients suffering from morbid conditions go through.

It is pertinent to understand the consequences of morbid conditions (such as esophageal perforations) and what we as doctors, especially acute care physicians can do in our control to give our patients much needed psychological support. Hence, a repeatedly performed mental state examination at each hospital presentation/admissionis essential for patients undergoing multiple surgical/medical interventionsor those with multiple morbid conditions affecting basic quality of life. Had this patient been evaluated and worsening psychological status identified… he could have been helped.

This is where we as emergency physicians can start a new practice of giving equal importance to mental health of morbidly sick patients at each hospital presentation and ensure adequate follow up.

Discussion:-

Esophageal perforations are rare to encounter and tricky to diagnose for the medical team especially emergency physicians. Patients could present with the classical Mackler triad of vomiting, chest pain and subcutaneous emphysema or could have other symptoms like neck pain, dysphagia, chest pain, shortness of breath, vomiting, hematemesis.

It requires a high index of suspicion for the same because presenting complaints can be varied secondary to location of the esophageal perforation.

This can cause a significant delay in diagnosis and further management (surgical or conservative). Mortality rates are still high despite advancements in medicine and surgery and those patients that survive suffer immensely later on- physically as well as mentally. (1)

An Esophageal perforation is a transmural communication between the upper digestive tract and the mediastinum. Perforation causes gastric contents to leak into the mediastinum causing chemical mediastinitis which can lead to sepsis and death.

When the mediastinal pleura ruptures, contaminated gastric fluid may be drawn into the pleura by the negative intrathoracic pressure leading to pleural effusions or rarely empyema.

Common causes of esophageal perforations are iatrogenic, spontaneous, post traumatic or post foreign body impaction. Though a large portion of perforations are iatrogenic, spontaneous perforations are the commonest cause of non-iatrogenic perforations (15% of all esophageal perforations).(1)

Boerhaave syndrome, or spontaneous esophageal perforation, are effort ruptures of the esophagus and occur most commonly as a result of severe straining - forceful retching or vomiting. Most perforations occur in the lower third of the esophagus as this area is weaker owing to absence of serosallayer,among other causes. (5). It has a mortality rate of up to 60% with intervention, which increases to nearly 100% without intervention.(6).

Treatment modalities are often surgical or conservative, depending upon the time lapsed since diagnosis and the patient’s clinical condition at presentation. (7).
This case is rare and noteworthy because

1. Traumatic lower esophageal perforations are rare
2. The esophageal perforation had a delayed presentation
3. The presenting symptoms were nonspecific and initially indicated either an infective etiologyor a post traumatic hemothorax… but the findings of empyema made the diagnosis even more tricky, also because the history of trauma was revealed later on.
4. It was seen that multiple life saving interventions including surgeries increased morbidity in this patient… and how increased morbidity and frequent hospital visits adversely affected the patients mental health.

Hence, it is essential to evaluate psychological status of patients – especially those with repetitive hospital admissions, those undergoing consecutive surgeries, oncological treatments, other prolonged treatments like hemodialysis etc. This is important to help their primary care /emergency physician identify any improvement or decline in patients mental wellbeing so that appropriate actions can be taken accordingly. The mental status examination (MSE) can be divided into the broad categories of appearance, behavior, motor activity, speech, mood, affect, thought process, thought content, perceptual disturbances, cognition, insight, and judgment. (8). Subjecting a certain subset of patients to this evaluation can immensely help us as emergency physicians in identifying vulnerable patients and providing patient care as a whole.

Conclusion:-

Early suspicion and intervention are of utmost importance in an emergency department as seen with our patient. It is of significant importance to note that emergency physicians should have a broad yet targeted outlook while assessing a patient. It is noteworthy to mention that mental well being of our patients is of equal importance, if not more, than physical wellbeing – as was seen with the tragic outcome of our patient. Safe patient care should be our utmost priority as emergency physicians, taking into consideration our limitations and weaknesses, but it is equally essential to identify our strengths and give equal importance toall aspects of medicine.

References:-

1. Kassem MM, Wallen JM. Esophageal Perforation and Tears. [Updated 2023 Aug 7]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK532298/
2. A. Eroglu, K.I. Can, N. Karaoganogu, C. Tekinbas, O. Yimaz, M. BasogEsophageal perforation: the importance of early diagnosis and primary repairDis Esophagus, 17 (1) (2004), pp. 91-94
3. N.M. Gupta, L. KamanPersonal management of 57 consecutive patients with esophageal perforationAm J Surg, 187 (1) (2004), pp. 58-63)P.P. VinsonExternal trauma as a cause of lesions of the oesophagusAm J Digest Dis Nutr, 3 (1936), pp. 457-459
4. Harikrishnan S, Murugesan CS, Karthikeyan R, Manickavasagam K, Singh B. Challenges faced in the management of complicated Boerhaave syndrome: a tertiary care center experience. Pan Afr Med J. 2020;36:65
5. Cuccì M, Caputo F, FraternaliOrcioni G, Roncallo A, Ventura F. Transition of a Mallory-Weiss syndrome to a Boerhaave syndrome confirmed by anamnestic, necroscopic, and autopsy data: A case report. Medicine (Baltimore). 2018 Dec;97(49):e13191
6. Aiolfi A, Micheletto G, Guerrazzi G, Bonitta G, Campanelli G, Bona D. Minimally invasive surgical management of Boerhaave's syndrome: a narrative literature review. J Thorac Dis. 2020 Aug;12(8):4411-4417

7. Voss RM, Das JM. Mental Status Examination. [Updated 2024 Apr 30]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK546682/