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A RARE CASE OF HYDROPNEUMOPERICARDIUM

Radio-Diagnosis

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ABSTRACT

Hydro-pneumopericardium is an uncommon life threatening clinical/ radiological finding, constitutes an acute emergency that requires immediate surgical intervention[3]. Here, we report a rare case of hydropneumopericardium secondary to foreign body impaction in oesophagus.

KEYWORDS

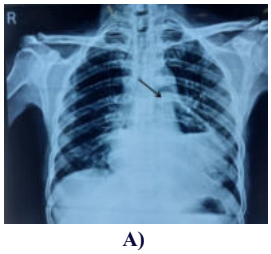
Hydropneumopericardium , Foreign body , Chest X-ray , CT chest.

INTRODUCTION

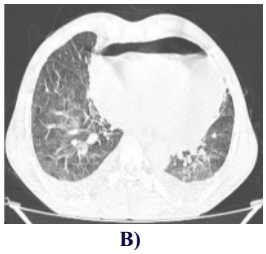
Hydropneumopericardium is an extremely rare condition caused by trauma, infections, invasive procedures, or fistula formation secondary to perforation of a neighboring viscus and results in extremely high mortality[4,5]. It frequently causes cardiac tamponade and rapid circulatory collapse, necessitating prompt management[1,6]. Here, we report a case of hydropneumopericardium presented to the department of Radiodiagnosis for chest X-ray and CT .

Case Report

A 50-year-old male patient presented to ER with sudden onset of breathlessness. He also had chest discomfort and difficulty in swallowing for the past 2 days. He was a known alcoholic and not a diabetic or hypertensive. He was a fisherman by occupation. On clinical examination by the General physician, the patient was moderately built and nourished, BP - 100/60 mmHg, pulse rate - 105/min, respiratory rate - 28/min with oxygen saturation of 88% in room air, apex heartbeat not palpable, on auscultation muffled heart sounds noted, JVP elevated. ECG showed sinus tachycardia with a heart rate of 110/min, regular normal voltage. He was referred to the Department of Radiodiagnosis for a Chest X-ray PA view which showed enlarged cardiac shadow with air-fluid level within it suggestive of Hydropneumopericardium. CT chest study showed air-fluid level within the pericardial cavity and minimal free fluid in bilateral pleural cavities. There is evidence of a linear radiodense foreign body of length 5 cm impacted in the distal oesophagus at the level of D9 vertebral body and the hooked cranial end is seen migrated anteriorly into the pericardium. HU of the fluid in pericardial space and pleural space is 15 to 20 HU of fluid density. Thus, the diagnosis of Hydropneumopericardium secondary to foreign body impaction in oseophagus and migration into pericardial space was made. Planned for emergency decompression of pericardial space by pericar diocentesis to relieve cardiac tamponade, but unfortunately, the patients' general condition deteriorated and died before the procedure.



A)



B)

Fig A. X-ray chest PA view which is showing enlarged cardiac shadow with air-fluid level within it.

Fig B. CT chest study axial view showing air-fluid level within the pericardial cavity.

- Fig C. CT coronal and axial mediastinal window showing an evidence of a linear radio-dense foreign body of length 5cm impacted in the distal oesophagus at the level of D9 vertebral body and cranial hooked end is seen migrated anteriorly into the pericardium showing hydopneumopericardium (*).HU of the fluid component in pericardial space is 15 to 20 HU suggestive of fluid density. Cardiac chambers are normal in size and attentuation,with no evidence of mediastinal shift .There is an associated bilateral pleural effusion (left>right) with a HU of 15-20.

DISCUSSION

Hydropneumopericardium is defined as the presence of fluid and gas in the pericardial sac. It is an extremely rare, critical condition and occurs commonly secondary to gas-forming bacterial infection, trauma, or fistula formation-secondary to perforation of a neighboring viscus such as oesophagus, stomach, liver abscess or bronchus and iatrogenic, secondary to pericardiectomy, and assisted positive pressure ventilation [2,7]. Infection spreading to the pericardium following oesophageal perforation is usually devastating, with a survival rate of only 17 percent in one review of 60 such patients[3]. The high mortality rate is in accordance with diagnostic delay, development of purulent pericarditis, severe sepsis and previous general health deterioration[8].

So in a patient with hydropneumopericardium, all the above-mentioned causes are to be ruled out by clinical findings and radiological evaluation by X-ray and Computed tomography should be done thoroughly and promptly as it is a medical emergency. Early Diagnosis and treatment is still the key for survival. Thus a greater clinical awareness is needed and should be managed on warfooting due of high mortality. The present case is a Hydro pneumopericardium with esophago-pericardial fistula formation secondary to foreign body impaction.

CONCLUSION

Hydropneumopericardium is an uncommon entity with numerous possible causes. Clinically it often presents with non-specific symptoms[8]. So radiological evaluation for proper recognition of this condition and its underlying cause ensures early treatment and reduces mortality[3]. Thus a greater clinical awareness is needed.

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