Case report

Spontaneous hydropneumopericardium

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Introduction

Hydropneumopericardium is an extremly rare condition caused by infections, trauma or infiltrations from adjacent organs and results in extremely high mortality. Here, we report a case of tension hydropneumopericardium with significant haemodynamic compromise associated with probable *Steptococcus milleri* infection.

Case report

A 63-year-old healthy male presented with retrosternal and left sided shoulder tip pain of two days duration. His ECGs, cardiac enzymes and a chest radiograph were normal. He was discharged with analgesics after a day of observation. A week later, he was readmitted to emergency unit with sudden onset of shortness of breath and he was in cardiogenic shock. An urgent chest radiograph revealed a hydropneumopericardium. After initial resuscitation, emergency surgical exploration followed by partial pericardiectomy was performed to prevent cardiac tamponade and possible constriction. Gram positive cocci in chains resembling morphology of *Stretococcus milleri* were isolated from pericardial fluid. However, he succumbed to the illness in spite of prompt antibiotic, inotropic and ventilatory support.

Discussion

Hydropneumopericardium is defined as presence of a serous effusion and gas in pericardial sac.[1] It is an extremely rare, critical condition and occurs commonly secondary to gas forming bacterial infection, trauma or infiltration from adjacent organs.[1] A variety of secondary fistulae such as bronchopericardial, esophagopericardial, and gastropericardial have been reported in literature.[2] A spontaneous serosanguinous tension pneumopericardium due to *Steptococcus milleri* had been reported.[3] It is a rapidly progressive clinical condition as evidenced by a normal chest radiograph taken a week back. Non anginal type of chest pain and shoulder tip pain are the early symptoms which are easily over looked in the practice as non specific chest pain. Systemic inflammatory symptoms and signs may be absent and also inflammatory markers as the infection is restricted to pericardial space. There were no positive blood investigations to point an aetiology for infectious, rheumatic, neoplastic, and autoimmune origin in our case. Interestingly, a gram positive cocci in chains resembling morphology of *Stretococcus milleri* was isolated from pericardial fluid postmortem. However microbiological confirmation was not feasible due to limited battery of microbiological tests.

Hydropneumopericardium is life threatening if signs of cardiac tamponade are present, and therefore requires prompt diagnosis and intervention. The clinical diagnosis is made from Shackelford criteria which include (a) high-pitched tympanic percussion note, (b) loud metallic splashing sound synchronous with heart sounds, and (c) characteristic chest X-ray with an air-fluid level in the pericardial cavity.[4] However presence of air and fluid around heart in a simple plain chest radiograph is a simple confirmatory diagnostic test for hydropneumopericardium. Surgical exploration followed by pericardiectomy is usually performed to prevent cardiac tamponade and possible sequel of pericardial constriction.[5] Emergency surgical exploration followed by partial pericardiectomy was performed after initial resuscitation. He was managed with broad spectrum antibiotics in intensive care unit. However, he succumbed to the condition in spite of intensive antibiotic and supportive therapy. The condition is usually associated with high mortality and morbidity.[6]

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