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CASE REPORT

An Unusual Presentation of Tuberculosis

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ABSTRACT

The normal pericardium is a fibroelastic sac containing a thin layer of fluid that surrounds the heart. Cardiac tamponade, which may be acute or subacute, is characterized by the accumulation of pericardial fluid under pressure. Tuberculous pericarditis is a complication of tuberculosis which is often diagnose late due to the difficulty in establishing this diagnosis. We present a case of pericardial tuberculosis diagnosed in a 20-year-old young retroviral disease patient who presented with signs of cardiac tamponade. His clinical condition improved post-pericardial tapping and he was discharged with anti-tuberculosis medications. This case highlight the importance of having a high level of suspicion as this condition is easily curable.

INTRODUCTION

Tuberculous pericarditis is often a complication of tuberculosis which is difficult to establish and often missed[1]. This can lead to poor outcome like constrictive pericarditis or increased mortality. Tuberculous pericarditis occurs in 1 – 2% of patients with pulmonary tuberculosis[3]. Pericardial tuberculosis can occur through the extension of infection directly from the lungs or tracheobronchial tree, lymph nodes, spine, or via miliary transmission[2]. The importance of clinching the diagnosis early will eventually lead to good outcome.

CASE PRESENTATION

A 20-year-old gentleman with retroviral disease and HAART (Highly Active Antiretroviral Therapy) naive presented to us with progressively worsening dyspnoea over two weeks' duration. His blood pressure was 90/75 mmHg, distended neck veins and muffled heart sounds. Kussmaul's sign was positive. Electrocardiography showed sinus tachycardia with electrical alternans (Figure 1). His chest radiograph P/A view (Figure 2) showed gross cardiomegaly with clear lung fields. A transthoracic echocardiography (TTE) confirmed our clinical suspicion (Figure 3). A large pericardial effusion was seen with swinging of the heart in the effusion. His right atrium and ventricle were collapsed in diastolic phase with inferior vena cava plethora seen. There was more than 25% respiratory variation of the mitral valve inflow (E wave). Urgent pericardiocentesis was performed via an apical approach draining a total of 3 litres haemorrhagic pericardial fluid. His sputum for acid fast bacilli and gene X-pert were negative. His pericardial fluid result was exudative in nature and the cytology was negative for abnormal cells. Pericardial fluid gram stain was negative. Serum and pericardial LDH were normal. His pericardial fluid culture grew *mycobacterium tuberculus*, sensitive to first line anti-tuberculosis medication. His sputum MTB culture came back later growing *Mycobacterium tuberculosis*. There was no clinical or laboratory evidence to suggest the presence of malignancy in this patient. Empirical anti-tuberculosis medications and oral prednisolone was started for his TB pericarditis per protocol. During his subsequent follow-up over duration of 6 months, his repeated echocardiography showed complete resolution of the pericardial effusion and he had made a good recovery. His CD4 count was 50 cell/mm^3 and he was started on HAART at the local retroviral disease clinic within 1 month from diagnosis.

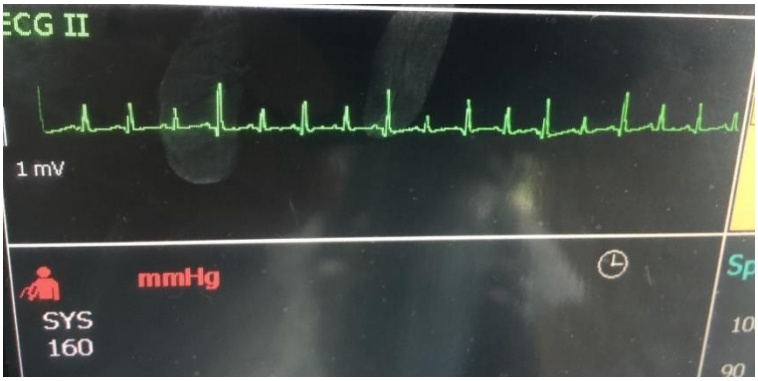

Figure 1 Cardiac monitor showed electrical alternans

Figure 2 The chest X-Ray P/A view showed cardiomegaly

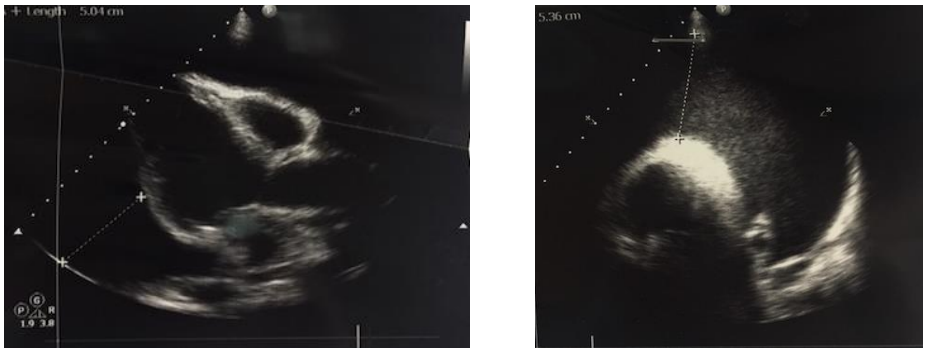

Figure 3 Transthoracic echocardiography shows pericardial effusion measuring 5 cm

DISCUSSION

Cardiac tamponade is an absolute indication for pericardiocentesis[1]. Pericardial fluid is not always equally distributed throughout the pericardial sac. Echocardiography guided aspiration has been shown to be more superior to blind subcostal (subxiphoid) aspiration[2]. Using an echocardiography probe, the best entry site closest to the chest wall can be entered without puncturing any vital organs[2]. Large observational studies have reported major complications to be less than 2% related to echocardiography related procedures. Among the serious complications reported are myocardium puncture and laceration, vascular injury, pneumothorax, air embolism and arrhythmias[3].

Pericardial effusion due to tuberculosis is usually exudative and characterized by high-protein content and raised-leucocyte count with lymphocyte predominance. The percentage of lymphocytes in the pericardial fluid is characteristically lower in patients with HIV infection than in non-HIV infected patients (32 versus 52%)[3]. Polymerase chain reaction (PCR) for mycobacterial DNA in pericardial fluid is useful for the diagnosis of pericardial tuberculosis[4].

Tuberculous pericarditis is confirmed by the presence of tubercle bacilli in smear or culture from the pericardial fluid and/or detection of caseating granuloma or tubercle bacilli from the histological examination of the pericardium[4]. Once the diagnosis is confirmed, anti-tuberculous therapy is generally the same with pulmonary tuberculosis (TB). Corticosteroid is generally added in high-risk cases for constrictive tuberculous pericarditis. Addition of steroids does not appear to be beneficial in the setting of non-constrictive tuberculous pericarditis especially in HIV negative patients[5]. Pericardiectomy is warranted in cases of persistent constrictive pericarditis despite anti-tuberculous therapy[6]. Anti-tuberculosis therapy has been shown to reduce the likelihood of constrictive pericarditis from 80% to 10%[6].

CONCLUSION

Tuberculous cardiac tamponade is a rare complication of extra-pulmonary tuberculosis. This case highlights the importance of having a high level of suspicion as this condition is easily curable.

CONFLICT OF INTEREST

The authors declare that they have no competing interests in publishing this case.

CONSENTS

Written informed consent was obtained from the patient to publish the case. A copy of the written consent is available for review by the Chief Editor.

ACKNOWLEDGEMENTS

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REFERENCES

1. Spodick DH. (2003). Acute cardiac tamponade. N Engl J Med 349: 684.
2. Tsang TS, Freeman WK, Sinak LJ, Seward JB.(1998). Echocardiograpically guided pericardiocentesis: Evolution and state-of-the-art technique. Mayo Clin Proc 73: 647.
3. Callahan JA, Seward JB. (1997). Pericardiocentesis guided by two-dimensional echocardiography. Echocardiography 14: 497.
4. Sagrista-Sauleda J, Permanyer-Miralda G, Soler-Soler J. (1988). Tuberculous pericarditis: Ten year experience with a prospective protocol for diagnosis and treatment. J Am Coll Cardiol 11: 724.
5. Mayosi BM, Burgess LJ, Doubell AF. (2005). Tuberculous pericarditis. Circulation 112: 3608.
6. Maisch B, Seferovic PM. (2004). Guidelines on the diagnosis and management of pericardial diseases executive summary; The Task force on the diagnosis and management of pericardial diseases of the European society of cardiology. Eur Heart J 25: 587.