

Case Report**Cystic Tuberculous Pericarditis*****A Rare Form******B. Sharifi-Mood MD*, R. Alavi Naini MD*, M. Eazadi MD*******ABSTRACT**

Tuberculous pericarditis is the most common cause of chronic pericarditis, especially in developing countries. Cystic tuberculous pericarditis is an exceedingly rare type of tuberculosis. Authors discuss clinical manifestations and radiological findings in a patient with cystic tuberculous pericarditis in whom diagnosis was confirmed by pericardial biopsy.

Key words: Cystic Pericarditis, Tuberculosis, Iran

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Pericardial tuberculosis is the most common form of cardiac tuberculosis and chronic pericarditis. Even in developing countries where the prevalence of tuberculosis is high, cystic tuberculous pericarditis (CTBP) is an exceedingly rare form of extrapulmonary tuberculosis^{1,2}. The southeast region of Iran is an endemic area for tuberculosis. The annual incidence rate for all types of tuberculosis disease and smear-positive pulmonary tuberculosis in Sistan and Baluchestan province has been about 70.7 and 41.6 per 100000 population respectively³. Tuberculous pericarditis forms %2.88 of extrapulmonary tuberculosis in Zahedan⁴. Based on our experience in the last 17 years in Southeastern of Iran, only one patient with CTBP was diagnosed. There is no report of this form of pericarditis from Iran during the past three decades. Here, we describe the second case of cystic tuberculous pericarditis in our area.

Case Report

A 6 year-old girl was admitted to the Boali hospital in Zahedan, a subtropical area in the southeast of Iran, for her exertional dyspnea and tachycardia in September 1998. The patient had been well until eight weeks prior to admission, when a physician evaluated the pa-

tient for exertional dyspnea. She had no systemic complaints except a loss of appetite and mild dyspnea. Chest X-ray showed cardiomegaly. At this time, the patient was referred to our hospital. She had already been routinely immunized. Her uncle received antituberculous chemotherapy about two years before for having smear-positive pulmonary tuberculosis. On Physical examination, the temperature was 37.1°C, pulse rate 105/min, respiration rate 32/min and blood pressure 95/65mmHg. No lymphadenopathy was found. The jugular venous pressure seemed normal. Respiratory breath sounds were also normal. On heart auscultation, the patient had tachycardia. There was no pitting edema. On laboratory evaluation, complete blood count, ESR, aminotransferase level, total bilirubin and urinalysis were all within the range of normal. The tuberculin test was 16 mm indurated. An electrocardiogram showed sinus tachycardia at a rate of 105/min and nonspecific ST segment and T wave changes. Chest X-ray revealed mediastinal widening and cardiomegaly. A chest CT scan showed a cystic mass in anterior mediastinal area. An open thoracic surgery was performed and a cyst was explored in the anterior

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mediastinal area extending to parietal pericardium. Fluid was aspirated. The cyst was extended to visceral pericardium so it was partially removed. Histopathologic report of the excised specimen revealed necrosis with caseating granuloma. Staining specimen for acid fast bacilli and pericardial fluid culture were negative. The patient was discharged ten days later. She was treated with oral steroid and four antituberculous drugs namely isoniazid, rifampin, ethambutol, pyrazinamide for 2 months, followed by two drugs isoniazid and rifampin for the remaining 10 months. After four months she was in a good condition and her appetite improved. Her weight increased about 3.5 kg since antibiotic treatment started.

Discussion

Tuberculous pericarditis (TBP) is most often caused by extension from a contiguous focus of infection, usually mediastinal or hilar nodes. Occasionally pericarditis is thought to arise during miliary dissemination^{1,2,5}. In underdeveloped countries, tuberculosis remains the most common cause of chronic pericarditis (%32). Tuberculous pericarditis is an uncommon form of extrapulmonary tuberculosis and it is often seen in elderly patients of the countries with low prevalence of tuberculosis. To our knowledge, only two cases of pericardial tuberculosis had already been reported in the last 35 years. The first patient was an Indian (resident in the United States) and the second was a 2-year-old child who was reported by Thirithavathua from Tamilnadu^{9,10}. Although, the high rate of annual incidence of all types of tuberculosis in Zahedan is 70.7 per 100000 population, we diagnosed only one patient with CPTB. The onset of pericarditis may be abrupt or insidious. Dyspnea is the most consistently reported symptom. Other common manifestations are cough, chest pain, orthopnea and night sweating^{5,6}. The tuberculin skin test result may be negative and evidence of extrapericardial tuberculosis may be absent^{1,2,5,6}. Our patient had only mild dyspnea and positive PPD test but he carried no evidence of extrapulmonary tuberculosis. Pericarditis with

effusion is usually quickly diagnosed based on physical examination and radiologic findings but establishing the exact diagnosis is often difficult^{5,6}. Most of Tuberculous pericardial fluid features are the same as those of tuberculous pleural fluid in which acid-fast smears are rarely positive and cultures are positive only in approximately 50% of cases. When effusion is present, echocardiography may detect it. Multiple loculations are suggestive of tuberculosis but cystic form is rare^{5,6}. The main diagnostic tool is pericardial biopsy. Documentation of pericarditis can be done with echocardiography, computed tomography or magnetic resonance imaging^{1,2,5,6}. The management of tuberculous pericarditis consists of prompt initiation of anti-tuberculous chemotherapy and corticosteroids^{2,5}. A combination of medical and surgical management (pericardiectomy) when hemodynamic compromise persists for 6 to 8 weeks, is usually indicated. Partial or complete pericardiectomy may be required where constrictive pericarditis is present. However, approximately two thirds of patients, do well without surgery^{1,2,5,6,8,11}.

In this patient, smear for acid-fast bacilli and pericardial culture were both negative. The diagnosis of tuberculosis was based on positive tuberculin test, positive family history and histopathologic findings. Although there was not any clinical important complaints in our patient, but similar to Thirithavithas' patient, diagnosis was made by histopathology. Our patient was treated with corticosteroid and anti-tuberculous drugs for 12 months but she was well after four months of treatment.

Conclusion

Although, cystic tuberculosis pericarditis is very rare but in developing countries where the prevalence of tuberculosis is high, this rare form of tuberculosis is a reflection of the high TB incidence. Pericardial biopsy should be the preferred diagnostic procedure in case a specific diagnosis such as tuberculosis is suspected.

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