



TB PERICARDITIS WITH COMPLICATING PLEURAL EFFUSION IN AN NON-COMPROMISED YOUNG AFRICAN

Dr John OSARENKHOE^{1*}, Dr Oladimeji ADEBAYO¹ Dr Leslie OMORUYI¹, Dr Laura IMARHIAGBE¹, Dr Nwabueze OKWESA , Dr Martins BALOGUN

¹C/o Department of Medicine,
Igbinedion University Teaching Hospital, P.O. Box 11, Okada, Edo State, Nigeria
**Email of Corresponding Author: doctorladi@yahoo.com*

ABSTRACT

A 28 years old previously healthy educated and middle class presented with occasional two weeks of cough non-productive with chest tightness associated with fever. He has no history suggestive of immunosuppressive state. There was left supraclavicular lymphadenopathy. There was also a hyperaemic pharynx with symmetrical chest, no anterior chest wall deformity, dull percussion note on right hemithorax with reduced air entry into middle and lower lung fields. Chest x-ray revealed elevated right hemidiaphragm, widened mediastinum and enlarged cardiac shadow. The HIV screening result was negative and echocardiography revealed pericardial effusion. Pulmonary Tuberculosis is commoner than other forms of tuberculosis. It proves a diagnostic challenge in a young otherwise non-immunocompromised person which the diagnosis may be missed without due clinical vigilance.

Keywords: tuberculosis, pericardial effusion, extra pulmonary TB,

CASE PRESENTATION

A 28 year old, Nigerian male weighing 92kilograms had a feeling of bloated face and neck for a day. There was occasional cough of 2weeks duration, non-productive with chest tightness and difficulty with breathing, sore throat and swollen neck. There was also associated low grade intermittent fever. He worked as an engineer in an oil company.

He was neither hypertensive nor diabetic. He had no (contact) history of tuberculosis.

He had treatment for malaria and typhoid fever in a private hospital prior to this presentation (was seen on two occasions).

The x-ray done showed no abnormality except raised right hemi-diaphragm. Full blood count analysis showed haemoglobin concentration of 11g/dL, white cell count of 5,500/mm³, white cell count differential of neutrophil-56.6%, lymphocyte-34.4% and platelets of 234,000/mm³.

Did not smoke and or ingest alcohol. No significant drug history.

On examination he was a young man, acutely ill looking, conscious, not pale, anieteric, no conjunctival injection, no pedal oedema and weight was 90kg. There was left supraclavicular lymphadenopathy. There was also a hyperaemic pharynx with symmetrical chest, no anterior chest wall deformity, dull percussion note on right hemithorax with reduced air entry into middle and lower lung fields. There was hepatomegaly and no other organomegaly of note. There was no significant finding in the central nervous system. His pulse rate was found to be 115/minute; regular; full volume, blood pressure was 150/80mmHg with distant S1 and S2 heart sounds.

INVESTIGATIONS

He was admitted and echocardiography done revealed large pericardial effusion with mediastinal lymph nodes enlargement. Chest x-ray revealed elevated right hemidiaphragm, widened mediastinum and enlarged cardiac shadow. The HIV screening result was negative.

Lipid profile outcome was cholesterol- 187mg/dL, HDL-29mg/dL, LDL cholesterol-182mg/dL and triglycerides 121mg/dL. Full blood count revealed Packed Cell Volume (PCV) of 39% , white cell count 8,200/mm³, white cell count differentials (neutrophils-68.9%, lymphocytes 19.9%, platelets 245/cm³). There was (+) malaria parasite found with no significant WIDAaL titre. There was raised ESR value of 65mm/hr, electrolytes, urea and creatinine -(Sodium-140mmol/L, Potassium-3.6mmol/L, Chloride-105mmol/L, Urea -20mmol/L, Creatinine-0.8mg/dL). The abdominopelvic scan showed the liver to be enlarged (AP=134mm) with normal echotexture and good vasculature. There was marked right pleural effusion but gall bladder, kidneys, pancreas and spleen were normal so also the urinary bladder. There was no ascites or lymphadenopathy. Due to unstable condition of the patient, an Abdominal CT scan could not be done.

Repeat laboratory investigation while on admission was as follows. The HIV screening result was negative. Lipid profile outcome was cholesterol- 185mg/dL, HDL-29mg/dL, LDL cholesterol-112mg/dL and triglyceride 219mg/dL. Full blood count revealed Packed Cell Volume (PCV) 39%, white cell count 8,500/mm³, white cell count differentials (neutrophil-70.2%, lymphocyte 19.1%, platelets 408/cm³). There was (+) malaria parasite found with no significant widal titre (no rising titre). There was raised ESR value of 65mm/hr, electrolyte, urea and creatinine -(Sodium-124mmol/L, Potassium-3.5mmol/L, Chloride-119mmol/L, Urea -18mmol/L, Creatinine-0.8mg/dL). The chest X-ray showed massive effusion on right hemi-thorax. Sputum Acid Fast Baccili(AFB) - + (three times). Echocardiography showed moderate pericardial effusion, right ventricular dilatation and no sign of early diastolic collapse. The third chest X-ray showed improvement in the effusion.

Random blood sugar was 131mg/dL.

Pleural fluid tap produced aspirate of about of 2 litres (not grossly blood stained). Aspirate samples for cytology, microscopy, culture and sensitivity, AAFB and biochemistry were taken. The culture showed no growth after 48hours at 37 degrees Celsius. Another 2litres of fluid was drain on the second day while on the third day 1litre was drained.

In addition he had treatment for respiratory tract infection. He had tablet Azithromycin, tab Diclofenac, tablet Arthemether & Lumenfantrine and cough expectorant. The initial physician did not suspect a mild illness.

There was easy fatigability and dyspnoea on exertion and progressive body weakness until the 21st day on admission.

Another echocardiography done (on the 21st day on admission) revealed mild reduction in pericardial effusion. Breath sounds were then audible in both right and left lung zones with chest X-ray showing improvement in pleural effusion while cardiac ultrasound showed mild reduction in pericardial effusion. He was hydrated with Intravenous fluid 5% Dextrose saline. Tablet Paracetamol 1gram three times daily, Quinine injection 600mg 8hrly both for 3 days were given for Malaria.

After 22 days on admission patient was much better and sitting up. Interestingly, he was requesting for discharge home because he wanted to solve some? emotional problems in addition to getting closer to his family. He was discharged after persistent request to see in 3days.

DISSCUSSION

Tuberculosis is one of the oldest and most commonly encountered diseases especially in Sub-Sahara Africa. Although there is a significant steady decline in the incidence of active pulmonary tuberculosis due to early diagnosis and prompt treatment, the incidence of extra pulmonary TB has remained constant particularly due to a delay in recognizing the condition when the presenting clinical scenario consists mostly of nonspecific extra pulmonary symptoms (6).

Extra pulmonary tuberculosis (TB) represents approximately 25% of overall tubercular morbidity. Among extra pulmonary tuberculosis (EPTB), most common is lymph node tuberculosis while other forms are

pleural tuberculosis, skeletal tuberculosis, CNS tuberculosis, abdominal tuberculosis, genitourinary tuberculosis, and miliary tuberculosis, tubercular pericarditis is also seen (5).

Owing to the atypical clinical presentation of extra pulmonary tuberculosis, tissue samples for the confirmation of diagnosis can sometimes be difficult to procure, and the conventional diagnostic methods have a poor yield. The diagnosis is often delayed (5).

Tuberculosis (disseminated) would likely elicit a higher level of suspicion in an HIV/AIDS patient due to their co-infection and recent pan-endemicity of the disease in Sub-Saharan Africa where the patient was seen. However, in a HIV negative patient, it would present a dilemma especially in an unsuspecting clinician who has a covert case (1). EPTB constitutes about 15 to 20 per cent of all cases of tuberculosis in immunocompetent patients and accounts for more than 50 per cent of the cases in HIV-positive individuals (5).

Baseline workup for the definitive diagnosis of tuberculosis are usually non-invasive with significant yield. Imaging studies in our case showed a massive right pleural effusion, mediastinal lymphadenopathy and enlarged cardiac shadow. Echocardiography revealed a large pericardial effusion with no cardiac vegetations.

Our patient had extra pulmonary tuberculosis affecting the pleura and pericardium. He was screened and found to be HIV negative. The diagnostic dilemma was worsened by the absence of other factors that could point to tuberculosis in the patient viz weight loss, immunosuppression and a social background of impoverishment. He had no history of contact with person with tuberculosis and had not taken anti-tuberculosis drugs in the past. The disease was probably transmitted unknowingly from a case of sputum positive pulmonary tuberculosis (4,5).

The disease usually responds to standard anti-tuberculosis drugs. Our patient showed improvement in symptoms following commencement of anti-tuberculosis drugs.

We have reported this case to emphasize the increasing incidence of extra-pulmonary tuberculosis and the importance of rapid and reliable diagnosis, and to create awareness for early suspicion.

REFERENCES

1. Maniar JK, Kamath RR, Mandalla S, Shah K, Maniar A. HIV and tuberculosis: Partners in crime. *Indian J Dermatol Venereol Leprol* [serial online] 2006 [cited 2013 Apr 25];72:276-82. Available from: <http://www.ijdv.com/text.asp?2006/72/4/276/26723>
2. Kohli SC, Piryani RM. Tuberculosis: An unusual presentation. *Kathmandu University Medical Journal*. 2007 Oct-Dec; 5(4): 531-3
3. Wiwatworapan T, Anantasetagoon T. extra-pulmonary tuberculosis at a regional hospital in Thailand. *The Southeast Asian Journal of Tropical Medicine and Public Health*. 2008 May; 39(3): 521-5
4. Das S K, Das A, Gangopadhyay A, Sinha A K. Primary disseminated extrapulmonary multidrug resistant tuberculosis. *Indian J Med Microbiol* [serial online] 2012 [cited 2013 Aug 27];30:364-6. Available from: <http://www.ijmm.org/text.asp?2012/30/3/364/99509>
5. [Sharma SK](#), [Mohan A](#). Extrapulmonary tuberculosis. *Indian J Med Res* 2004 Oct;120(4):316-53.
6. [Aisha A. Alghamdi](#), [Faiza S. Awan](#),* [Iqbal H. Maniyar](#), and [Naif A. Alghamdi](#). Unusual Manifestation of Extrapulmonary Tuberculosis. *Case Rep Med*. 2013; 2013: 353798. Published online 2013 April 28