Research Paper

Volume : 5 | Issue : 1 | JANUARY 2016 • ISSN No 2277 - 8179

An Interesting and Incidentally Detected case of Idiopathic Cd4+ Lymphocytopenia in an Isolated Splenic Tubercular Abscess

Medical Science

KEYWORDS : Tuberculosis,Immunology, Splenic abscess

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ABSTRACT

Tuberculosis of spleen occurs due to disseminated or miliary form of the disease. It occurs commonly in immunocompromised individuals especially in HIV patients. We report an interesting case of Idiopathic CD4+ lymphocytopenia incidentally detected in an isolated splenic tubercular abscess. In this case report, we briefly discuss the approach, review of literature and it's management.

INTRODUCTION

In India tuberculosis is endemic with pulmonary tuberculosis being most common. Extra

Pulmonary tuberculosis accounts for 15% of the cases.(Peto, Pratt, Harrington, LoBue, & Armstrong, 2009) [1] Splenic tuberculosis is a rare

presentation among extra pulmonary tuberculosis. Splenic abscess incidence was found to be 0.14% - 0.7% in autopsy based studies.(Chun et al., 1980) [2] Usually splenic tuberculosis is seen among Human Immunodeficiency Virus (HIV) positive individuals and as part of miliary tuberculosis. Splenic tuberculosis in an immunocompetent individual is very rare. Idiopathic CD4+ lymphocytopenia is a rare condition and we incidentally found this rare association in a rare case of isolated splenic tubercular abscess.

CASE REPORT

A 30year old male non diabetic, non hypertensive, non smoker came to our hospital with complaints of left hypochondriac pain with fever since 9 days with no history of cough, sputum, breathlessness or weight loss. Patient had no past history of tuberculosis, intravenous drug abuse, blood transfusions, sexually transmitted diseases and no family history or contact with tuberculosis cases. Patient was moderately built and nourished. General physical examination was unremarkable. Respiratory system examination was normal. Abdominal examination showed tenderness over left hypochondriac area with mild splenomegaly. Other systemic examination was unremarkable. Laboratory investigations showed Haemoglobin-13.2gm/dl, WBC-6,500 mm3. ESR was moderately elevated (45mm/hr). Mantoux test was showing induration of 3mm in diameter which is negative in immunocompetent as well as immunocompromised patients.

[FIGURE 1] **Chest x-ray was normal.**

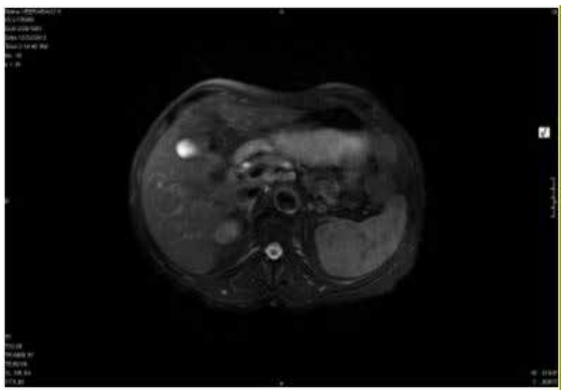
Ultrasonography of abdomen was suggestive of

hypoechoic lesion in spleen suggestive of splenic abscess.

[FIGURE 2] **Ultrasonography of abdomen**

MRI of abdomen showed multiple hypointense lesions in T2 imaging of spleen.

[FIGURE 3] **MRI ABDOMEN T2W**



Ultrasonography guided Fine needle aspiration cytology of splenic abscess was done and drain was sent for microbiological examination. It was showing acid fast bacilli on Ziehl Neelsen staining suggestive of TB bacilli. Mycobacterial culture and TB Polymerase chain reaction test were sent which were positive. Histopathogical examination showed granulomatous lesions. CD4 counts were 266 mm3. HIV ELISA, HBsAg and HCV along with the virology panel comprising Ebstein Barr virus, Human

Herpes virus 6, Cytomegalovirus, Respiratory syncytial virus, Parvo B19 virus and enterovirus which came negative and these tests were done to exclude as a cause for low CD4 counts. As his CD4 counts were low, we have done P24 antigen assay, repeat HIV-ELISA and WESTERN BLOT test which were negative. Measurement of serum immunoglobulins IgA, IgG and IgM were normal.

DIFFERENTIAL DIAGNOSIS

- Lymphoma
- Splenic abscess
- Splenic hematoma

TREATMENT

- Patient was started on Category 1 Anti Tubercular Therapy as per World Health Organisation
- (WHO) guidelines comprising:
- 2 months of Intensive therapy containing-
- Isoniazid (H) – 5 mg/kg/day
- Rifampicin (R) – 10mg/kg/day
- Pyrizinamide (Z) – 25mg/kg/day
- Ethambutol (E) – 15mg/kg/day followed by
- 4 months of continuation phase containing-
- Isoniazid (H) – 5mg/kg/day
- Rifampicin (R) – 10mg/kg/day.

FOLLOW UP

Patient's symptoms improved and repeat ultrasonography was done showing regression of

Lesions. Repeat CD4 count was done after 2 months which showed 274 mm3. Patient's symptoms improved and repeat ultrasonography was done showing regression of lesions. Patient was asymptomatic with weight gain. Serological assays including mycoplasma, rickettsia, Borrelia burgdorferi, disseminated fungal infections along with immunobiological studies including human lymphocyte antigen typing were done to rule out the secondary causes of low CD4 counts which were negative.

DISCUSSION

Tuberculosis of the spleen was first described in literature in 1846 by Coley referring to enlarged spleen secondary to tuberculosis with absent or limited involvement of other organs. (Meredith, Early, & Becker, 1949)[3] Tuberculosis presents as either pulmonary or extra pulmonary disease. Approximately 15-20% of all cases of tuberculosis are extrapulmonary. (Hamizah et al., 2007) [4] Among extra pulmonary tuberculosis, splenic tuberculosis is exceptionally rare which accounts in 3-11% of diagnosed abdominal tuberculosis. (Pottakkat et al., 2010)[5] Splenic tuberculosis is rare and largely restricted disease to immumocompromised population. (Sharma, Smith-Rohrberg, Tahir, Mohan, & Seith, 2007; Zhan et al., 2010)[6- 7] Usually splenic tuberculosis occurs either as part of miliary tuberculosis or in immunosuppressed states like HIV, long term steroid therapy, Malnutrition etc. In military tuberculosis, the third most common organ involved is spleen (lung 100%, liver 82%, spleen

75%, lymph nodes 55%, bone marrow 41%). (Nayyar, Ramakrishna, Mathew, Williams, & Khanduri, 1993)[8]Splenic tuberculosis presenting as multiple abscesses is very rare. Splenic tuberculosis may present as pyrexia of unknown origin. (Ho, Chim, & Yuen, 2000)[9]In India where tuberculosis is endemic, it is wise to suspect splenic tuberculosis as one of the probability in those patients who present with pyrexia of unknown origin and splenomegaly.

In our case, patient doesn't have history of contact with tuberculosis, no history of steroid usage and his viral markers for HIV, HBsAg, HCV were negative. Patient was found to have hypoechoic lesions in spleen suggestive of splenic abscess on ultrasonography and MRI. Fine needle aspiration cytology was done and sent for histopathogical examination which revealed granulmatous lesions.

Ultrasonography guided Fine needle aspiration cytology of splenic abscess was done and drain was sent for microbiological examination. Mycobacterial culture and TB Polymerase chain reaction test were sent which were positive. In contrast to other similar case reports where immunocompetency was defined as HIV status being negative, we evaluated for the cause of this rare presentation in an young adult who is otherwise stable patient with no evidence of any immunocompromised state, we did CD4 count to know his immune status. Interestingly, his CD4 counts were low (266 cells/mm3). There was no cause identified for the same. Usually CD4 counts were found to be low other than HIV positive individuals in sick patients with sepsis, disseminated form of tuberculsosis. In our clinical practice, CD4 counts are done for those who are diagnosed to have HIV. We report a rare case where patient who is otherwise immunocompetent but with low CD4 counts can present with exceptionally rare form of tuberculosis.

Patient was started on Category 1 Anti tubercular therapy (ATT) as per World Health Organisation (WHO) guidelines comprising intensive and continuation phase. Intensive phase containing 4 drugs Isoniazid, Rifampicin, Pyrizinamide and Ethambutol for 2 months and continuation phase of four months containing 2 drugs Isoniazid and Rifampicin. Patient improved with the ATT. In patients who doesn't improve on ATT splenectomy can be considered.

Repeat ultrasonography was done on follow up and it showed regression of lesions. Repeat CD4 count was done during the follow up after 2 months which was 274 cells/mm3. As patient was not having any evidence of immunosuppressive state or active source of infection as evident from history, clinical examination, laboratory investigations and repeat CD4 count being done which was more than 6 weeks apart showing count of less than 300 cells per mm3,Idiopathic CD4 lymphopenia syndrome can be considered. The reason for this rare presentation of isolated tubercular splenic abscess is due to idiopathic CD4 lymphopenia which is usually missed if clinicians consider HIV status negative as immunocompetancy. Thus the case we report is a rare presentation in a rare disease.

Volume : 5 | Issue : 1 | JANUARY 2016 • ISSN No 2277 - 8179

CONCLUSION

Isolated Splenic tuberculosis is a rare case entity which has to be suspected early and treated appropriately.

- In a case of pyrexia of unknown origin, in tuberculosis endemic countries it is important to rule out tuberculosis even with such a short history.
- CD 4 counts have to be evaluated irrespective of HIV status as HIV status per se doesn't define immunocompetancy. Idiopathic CD4+ lymphocytopenia can lead unusual presentations of a common disease like tuberculosis.
- Splenic abscess can be treated by anti tubercular therapy and if patient doesn't respond, splenectomy can be done.
- Multiple splenic abscesses are quite rare and with tuberculosis as etiology is even more rare. Patients have to be treated early as incidence of mortality is quite high.

REFERENCE

1. Peto, H. M., Pratt, R. H., Harrington, T. A., LoBue, P. A., & Armstrong, L. R. (2009). Epidemiology of extrapulmonary tuberculosis in the United States, 1993-2006. Clin Infect Dis, 49(9), 1350-1357. doi:10.1086/605559 | 2. Chun, C. H., Raff, M. J., Contreras, L., Varghese, R., Waterman, N., Daffner, R., & Melo, J. C. (1980). Splenic abscess. Medicine (Baltimore), 59(1), 50-65. | 3. Meredith, H. C., Jr., Early, J. Q., & Becker, W. (1949). Tuberculous splenomegaly with the hypersplenism syndrome; a case report. Blood, 4(12), 1367-1373, illust. | 4. Hamizah, R., Rohana, A. G., Anwar, S. A., Ong, T. Z., Hamzaini, A. H., & Zulkarnaen, A. N. (2007). Splenic tuberculosis presenting as pyrexia of unknown origin. Med J Malaysia, 62(1), 70-71. | 5. Pottakkat, B., Kumar, A., Rastogi, A., Krishnani, N., Kapoor, V. K., & Saxena, R. (2010). Tuberculosis of the spleen as a cause of Fever of unknown origin and splenomegaly. Gut Liver, 4(1), 94-97. doi:10.5009/gnl.2010.4.1.94 | 6. Zhan, F., Wang, C. J., Lin, J. Z., Zhong, P. J., Qiu, W. Z., Lin, H. H., . . . Zhao, Z. J. (2010). Isolated splenic tuberculosis: A case report. World J Gastrointest Pathophysiol, 1(3), 109-111. doi:10.4291/wjgp.v1.i3.109 | 7. Sharma, S. K., Smith-Rohrberg, D., Tahir, M., Mohan, A., & Seith, A. (2007). Radiological manifestations of splenic tuberculosis: a 23-patient case series from India. Indian J Med Res, 125(5), 669-678. | | 8. Nayyar, V., Ramakrishna, B., | Mathew, G., Williams, R. R., & Khanduri, P. (1993). Response to antituberculous chemotherapy after splenectomy. J Intern Med, 233(1), 81-83. | | 9. Ho, P. L., Chim, C. S., & Yuen, K. Y. (2000). Isolated splenic tuberculosis presenting with pyrexia of unknown origin. Scand J Infect Dis, 32(6), 700-701. | | |