Case Report

Multiple episodes of Liver and splenic tuberculous abscesses in a HIV patient

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ABSTRACT

Tuberculous Splenic and liver abscesses in an advanced stage of HIV positive patient is not an unusual presentation in developing country. We are presenting a patient who developed repeated episodes of splenic abscesses in spite of being on HAART successfully.

39-year-old HIV positive gentleman, presented with complaint of abdominal distension since 15-20 days, Constipation since 10-15 days, dyspnoea on exertion and pain in abdomen and swelling of both feet since 4-5 days. Patient gives past history of tuberculous pleural effusion associated with USG proved multiple live and spleenic abscesses 10 years back. He was started on HAART and anti-tubercular therapy. In current admission, CT Abdomen revealed multiple splenic abscesses ranging from 3-8 cm, and liver abscesses ranging from 1-5 cms. The liver and splenic aspirate were negative for AFB and Mycobacteria Growth Indicator Tube. He did not responded to antibiotics hence started emperically on Category II anti tubercular therapy (ATT). Patient started responding to ATT, but succumbed to ATT induced hepatitis in 3 rd week. He was on Tenofovir, Lamivudine and Efavirez. Anti-tuberculosis treatment is the mainstay of the therapy. However, the outcome is also influenced by the co-morbid illnesses and the extent of the disease progress.

Key-words : Splenic, Tuberculous, abscess, repeated

Introduction :

Extra-pulmonary tuberculosis is one of the most prevalent opportunistic infections reported among HIV infected patients, especially in tuberculosis endemic regions of the world.[1] Almost any system can get involved due to tuberculosis. In fact, tuberculous involvement of spleen is very rare, especially in immune-competent host and usually seen in disseminated or miliary form of the disease and in patients infected with HIV.[2,3] Immuno-compromised patients are predisposed to evolution of various complications such as splenic abscesses.[4-7] Moreover, immune-compromised state is also correlated with poor prognosis and higher mortality rates among these patients. We are presenting such a case with unusual course.

Case History : 39 year old man was admitted with complains of gradually increasing abdominal distension, dry cough since 1 month. Patient also complained of constipation since 10-15 days. Patient has dry cough since one month was treated with Amoxicillin and Clavulunic acid for 14 days. He was admitted with complaints of dyspnoea on exertion and abdominal pain since 4-5 days. Patient had developed pain in abdomen in bilateral hypochondriac region since 4-5 days prior to admission. Pain was dull in nature, intermittent, affecting routine activities not radiating to other area. Patient had developed pedal oedema since 4-5 days gradually increasing, pitting in nature more in left foot, no redness, and no dilated veins. No history of fever, oliguria, altered sensorium, malena or high coloured urine.

Past History : Patient was diagnosed case of HIV sero positive since 10 years. He was diagnosed when he had developed tuberculous pleural effusion. His baseline CD4 count was 232. He was started on antiretroviral therapy with Stavudine, Lamivudine and Effavirez and anti-tubercular therapy. Ultrasonography showed multiple Splenic & Liver abscess. Pig tail aspiration of liver abscess was found negative for AFB and Entamoebahistolytica antibodies. Patient responded to Amoxicillin and

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Clavulanic acid and Metronidazole. Once the Anti-tubercular therapy was completed patient was changed to Stavudine, Lamivudine and Nevirapine (SLN) as per National AIDS Control Organization (NACO) guidelines then. He was continued on SLN. Patient had history of allergic rash due to Septran.

Patient got admitted again 5 years back with multiple liver and splenic abscesses. He received Ciprofloxacin and Metronidazole. Pig tail aspiration of liver done again and fluid was found sterile; it was negative for AFB. Patient symptomatically improved. When Stavudine was phased out according to NACO guidelines, patient was shifted to Tenofovir, Lamivudine and Nevirapine.

During current admission patient was afebrile. There was no cyanosis / clubbing / Lymphadenopathy / Icterus. Pallor was present. No oral Candidiasis. On per abdomen examination there was tenderness in both hypochondrium. Liver palpable 2-3 cm and spleen 8 cm palpable below costal margin. The other systems examination was normal.

On baseline investigations patient was anaemic had low serum albumin with normal liver enzymes. Renal function were normal. The current CD4 count was 322. As per NACO guidelines it's not considered as failure of ART as still not below baseline or fall is not 50% of peak CD4 count. Also acute infection, fever or active tuberculosis can cause decease in CD4 count. Viral load could not be done due to financial constraints. Table 2 is showing investigations done during hospital stay.

Ultra Sonography of abdomen showed Spleen 23 cm, multiple abscesses with internal septae, largest 8.5 x 10.4 x 9.2 cm liquefied. Liver 16 cm un-liquefied abscess in segment V 3.4 x 3.3 x 4.1 cm. Segment IV - 1.6 x 1.6 x 1.5 cm. Portal vein 15 cm mildly dilated, Right Kidney 9 x 5 cm normal. Left Kidney-10.3 x 4.5 cm normal. Free fluid present. CT Abdomen suggestive of splenomegaly with multiple abscesses ***(Figure 1-3)*** ranging from 3-8 cm with fluid level. Similar lesions exophytic from the liver ranging from 1-5 cm in diameter. In segments III, IV A, V and VIII. No lymph nodes. No ascites .The liver and splenic aspirate was negative for bacterial culture, Acid fast bacteria (AFB) and Mycobacteria Growth Indicator Tube (MGIT). Patient was given 15 days of injectable Cefotaxim, Metronidazole and oral Choroquine.

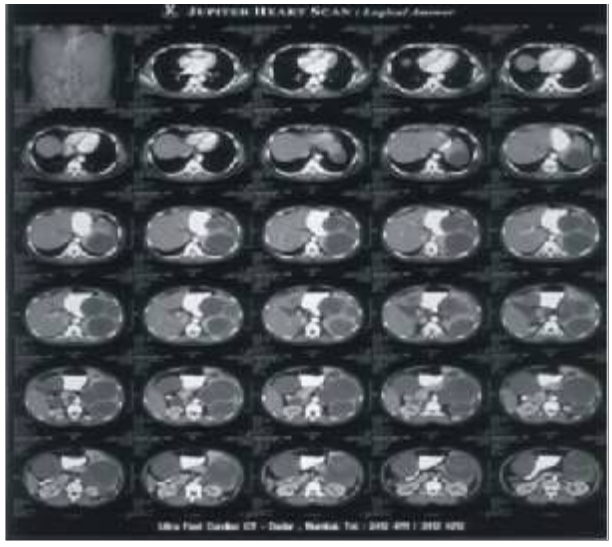

Figure 1 : **CT scan Abdomen showing abscessses**

Investigations

	Day 1	Day 5	Day 10	Day 20	Day 30
Hb	10.1	8.5	7.5	5.8	5.2
Total Count	6500	5500	4700	6400	5000
Platelets	2.8	2	2.6	4	3
T. Protein / Albumin	7.2/ 2.6	-	-	-	4.7/2.6
T.Bili / Direct	1.1/1	-	-	2.4/ 2	4.5/3
SGOT	29	35	37	210	351
SGPT	5	36	10	459	511
ALP	128	-	124	-	117
FBS	92	-	100	91	-

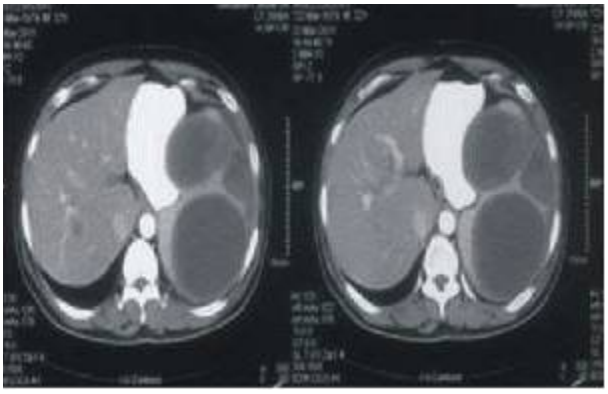

Figure 2 : **Splenic abscesses**

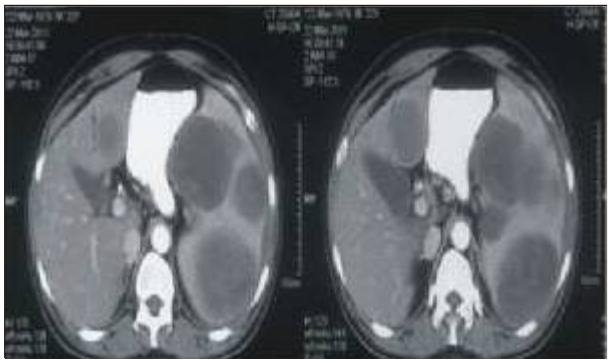

Figure 3 : **Liver and splenic abscesses**

He did not responded to antibiotics, fever was persistent. So on day 15 of admission, he was put on anti-tubercular therapy (ATT). Patient was shifted to Efavirez based anti-retroviral therapy as Nevirapine cannot be given with ATT. Rifampicin reduces blood levels of Nevirapine by 30 to 55%.

Patient started improving by day 5 of ATT, fever intensity was less. General condition improved, patient started eating adequately. By day 17 of ATT, patient started complaining of vomiting and nausea. On day 20 SGOT and SGPT was 210 and 459. Serum bilirubin was 2.4 with direct bilirubin was 2. So the Patient was put on hepatosafe ATT with Injection Streptomycin, Ethambutol and levofloxacin. Patient was given supportive line of management. On day 30 Liver function tests deteriorated further. Patient developed hepatic encephalopathy and succumbed to death. .

Discussion :

Most common organisms causing liver and splenic abscesses in HIV patient are M.tuberculosis and E.Histolytica. Another possibility is infection with both pathogens. Dual infections are common features of HIV. Mycobacterium Avium Complex is rare cause of splenic abscess but not of Liver abscess in HIV patient.

Splenic abscess in immune compromised patient's; the etiologies can be fungal isolates, including Candida albicans, Aspergillusspp, and agents of mucromycosis. Mycobacteria have also become more common. Anaerobic bacteria remain a relatively infrequent cause of splenic abscess in HIV positive patients.[8] In Bangkok, Thailand a study demonstrated the high rate of amoebic liver abscess in series of HIV patients (17.4%) from fresh smear with five cases of tuberculosis and one case of Nocardosis. They also found that; the rates of positive bacterial culture were 17.4% from blood and 47.8% from pus. Gram-negative aerobes were the major abscess pathogens in their series. Among Gram-negative aerobes, Klebsiella was the most significant microorganism, followed by Escherichia coli and Pseudomonas aeruginosa.[9]

On Sonography, splenic / liver lesion commonly presents as multiple regular hypo-echoic nodule representing tuberculoma and sometimes irregular hypo-echoic lesion representing abscess, especially in presence of HIV infection.[10] These findings were similarly observed in this patient also. On Sonography, multiple hypo-echoic intrasplenic lesions may also be seen in other conditions including myeloproliferative disorder suchas leukemia, lymphoma, Hodgkin's disease and metastasis. Similar sonographic pattern is also being reported in AIDS related lymphomatous involvement of spleen.[11]

Our case represents an atypical form of extra-pulmonary tuberculosis in HIV-positive patient. The Patient was responding well to ART as his CD4 count increased to 539. Still patient developed splenic and liver abscesses thrice during the span of 9 years. None of the liver or splenic (done only once under sonography guidance) aspirations of our patient were positive for AFB or MGIT culture therefore the adverse outcome cannot be blamed on Multidrug resistant tuberculosis. Invasive methods like FNAC / biopsy is usually not recommended;

similarly it was stated by SK Sharma et al., those other invasive methods of splenic lesion need not to be done for diagnosing Koch.[12] ATT induced hepatitis is a cause of morbidity in Tuberculosis patients. The pill burden and gastritis itself leads to non-adherence. Earlier study done by us shows HIV patients are more prone to ATT induced hepatitis and mortality.[13] 168 HIV positive patients were studied, 30.95% was the incidence rate of hepatotoxicity due to ATT.[13] Another data published by us shows, the lower the CD4 count the chances of developing hepatitis are increased.[14] In this study hepatitis B was most common cause of liver involvement in HIV patients followed by AKT induced hepatitis, followed by alcoholic liver disease, Nevirapine induced hepatitis and pyogenic liver abscess in that order.[14]

Anti-tuberculosis treatment is the mainstay of the therapy in liver or splenic abscesses not responding to antibiotics in HIV positive patients. However, the outcome is also influenced by the co-morbid illnesses and the extent of the disease progress.

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