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Splenic Abscess in a Case of Enteric Fever

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Abstract

In cases of enteric fever recorded in poor nations, splenic abscess is thought to be a relatively uncommon consequence. Splenic abscesses are typically diagnosed as a single lesion rather than a cluster of smaller abscesses, and if untreated, they can be fatal. In clinical practise, a splenectomy may be necessary when several splenic abscesses or thick pus with septations are present. In this instance, we describe a rare incidence of enteric fever in a young, immunocompetent male patient who presented with several splenic abscesses. Antibiotics and the percutaneous pigtail catheter drainage of pus from the biggest cavity in the spleen were effective treatments for him.

1. Introduction:

A small percentage of individuals with concomitant infections get splenic abscess, which is a rare disease [1]. Splenic abscesses are typically diagnosed as a single lesion rather than a cluster of smaller abscesses, and they can be lethal if discovered too late [2]. Splenectomy may eventually be necessary for patients with numerous abscesses who are not responding to percutaneous drainage. We describe a young male patient with immunocompetent enteric fever who presented with numerous splenic abscesses. Antibiotics and percutaneous pigtail catheter drainage of pus from the biggest cavity were effective treatments for him.

Case Report :

2. History:

A 33-year-old male patient was presented to our hospital with a history of intermittent, moderate to high grade fever for 6 days. The fever was also accompanied by chills, acute pain in the left hypochondriac region for 4 days, and non-colicy discomfort. The patient had never had long-term steroid therapy or immunosuppression.

3. Examination:

On clinical examination, our patient showed a 102°F fever, regular tachycardia (pulse: 116/min), normal blood pressure, and mild hepatosplenomegaly with left upper quadrant pain. A normal complete blood count and normal coagulation profile were found during the initial assessment of this case. An

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examination of the peripheral blood smear revealed no signs of sepsis and a normocytic, normochromic image. Blood work revealed normal liver and renal function tests, a normal blood sugar profile, and negative results from leptospirosis, dengue, and malaria serology testing. Salmonella enterica sp. enterica serotype typhi was detected in his blood cultures, and it was discovered to be responsive to amikacin, ceftriaxone, piperacillin tazobactum, and meropenem. Both the Typhi Dot-IgG and IgM tests came out positive. Routine microscopic tests of the urine and stool were normal, and cultures were sterile. An ultrasonogram confirmed a modest left pleural effusion that was suspected from the chest X-PA ray's image (USG).

After diagnostic pleural fluid examination, it was discovered that the fluid was exudative and dominated by lymphocytes. The adenosine deaminase level in the pleural fluid was normal, and no fungi, Gram-negative bacteria, or acid-fast bacteria stained the sample. An abdominal USG revealed several (4-5) ill-defined hypoechoic lesions, the largest measuring 6.5 cm 2.6 cm 5 cm in the splenic parenchyma (approx. volume - 40 cc). The results were validated by contrast-enhanced computed tomography (CECT) of the abdomen. Viral indicators (HIV, HBsAg, and hepatitis C virus) and haemoglobin electrophoresis were found to be normal.

Course:

For 14 days, he received amikacin and ceftriaxone intravenously (IV). After receiving IV antibiotics for five days, his fever subsided, and he was afebrile for one week before resuming intermittent fever and mild left hypochondrium pain. Repeated blood cultures were sterile. A modest shift to the left and a total leukocyte count of 15,000/mm3 and N84 on a peripheral blood smear investigation were suggestive of neutrophilic leukocytosis. Other biochemical tests came back clean. A second USG of the abdomen revealed several hypoechoic lesions, the largest measuring 5.30 cm by 5.60 cm by 3.80 cm. A repeat CECT abdomen revealed several irregular hypodense lesions, the largest measuring 95 mm by 62 mm by 50 mm. Additionally, there was a left sided pleural effusion as well as the collapse and consolidation of a portion of the left lower lobe. The results of the Mantoux test were negative, and the level of serum angiotensin-converting enzyme was normal.

Splenectomy was suggested and discussed with the gastroenterologist surgeon due to the patient's ongoing fever and several abscesses that continued to grow in size despite antibiotic treatment. However, a spleen-conserving strategy was used due to the patient's advanced age and the potential long-term risks of splenectomy (with the option of anb emergency splenectomy if needed). On the first day, 220 cc of pus were drained from the biggest cavity using a percutaneous pigtail catheter that was kept under USG guidance. When just 3-5 cc of pus had been evacuated after 6 days, the pigtail catheter was withdrawn. On IV meropenem and clindamycin, his previous meds were changed. With the aid of an ultrasound-guided pigtail catheter and these antibiotics, the patient had a good response to percutaneous drainage. 3 days after the pus was drained, the patient was afebrile. When examined cytologically, the pus culture and sensitivity from the percutaneous drainage were both sterile. After 2 weeks of changing the IV antibiotics, the patient was released from the hospital in a stable condition. After three months, a USG abdomen revealed no residual abscesses, and he remained symptom-free at the next follow-up.

4. Discussion:

Due to the elusive nature of the onset, ambiguous clinical picture, and rarity of the disorder, the diagnosis of splenic abscess in a case of enteric fever is highly challenging to make clinically [1,2]. Only one of 68 cases of multiple splenic abscesses reported in one study were caused by salmonella infection; it was also noted that patients with splenic infections caused by Gram-negative bacilli had a higher mortality rate than those with infections caused by Gram-positive cocci and a single abscess [3]. In this instance, his early presentation revealed many abscesses of various sizes. Our patient was immunocompetent and had no comorbid problems, despite the fact that there are several variables that might affect the course of a splenic abscess, including underlying disorders, the number and size of abscesses, the kind of organism, and general circumstances [4]. In an Indian study, the majority of the 14 patients with multiple abscesses out of 18 instances had concomitant diseases. In this study,

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splenectomy and pigtail catheter drainage were performed on 6 patients and 4 patients, respectively, and one death was documented with each procedure [5].

Before the development of good antibiotic therapy, there were about 2% of enteric fever cases with splenic abscesses; this number fell to less than 1% after this time [6]. It is increasingly uncommon to see a patient with a splenic abscess who also has a positive blood culture for salmonella typhi. A research involving 16 patients indicated that the most frequent aetiology of splenic abscesses were various bacterial infections rather than enteric fever in all but one case [7]. In endemic regions like India, the diagnosis of an enteric fever-related splenic abscess heavily relies on a high index of suspicion. In our case, a USG abdomen and CT scan imaging data, along with a positive blood culture, were used to establish the diagnosis. Among the risk factors are sickle cell disease, IV drug use, subacute bacterial endocarditis, diabetes mellitus, HIV, and immunosuppression [8]. Tuberculosis should also be considered, especially in developing countries where splenic abscess may be isolated or linked to a widespread illness [9]. Diagnostic tests for tuberculosis were unsuccessful in this case.

Up until recently, the main treatment for splenic abscesses was splenectomy along with antimicrobial therapy. But as we learn more about the spleen's function in immunology, the strategy is becoming more cautious. When a patient is not improving after receiving either percutaneous drainage or antibiotics, splenectomy is still the preferable course of action. After draining the largest abscess and receiving a proper course of broad-spectrum antibiotics, the patient in our situation reacted extremely well to treatment. Because there is less chance of intra-abdominal spilling, there are fewer problems, and the patient tolerates it better, percutaneous drainage is favoured [10].

5. Conclusion:

In conclusion, a diagnosis of splenic abscess must every time be taken into consideration in cases of enteric fever with left upper-quadrant pain or discomfort. If the patient's overall health allows, patients with splenic abscesses should begin a trial of spleen-sparing therapy that includes percutaneous drainage and antibiotics.

References:

[1] Allal R, Kastler B, Gangi A, Bensaid AH, Bouali O, Cherrak C, et al. Splenic abscesses in typhoid fever: US and CT studies. J Comput Assist Tomogr. 1993;17:90–3.

[2] Ng KK, Lee TY, Wan YL, Tan CF, Lui KW, Cheung YC, et al. Splenic abscess: Diagnosis and management. Hepatogastroenterology. 2002;49:567–71.

[3] Chang KC, Chuah SK, Changchien CS, Tsai TL, Lu SN, Chiu YC, et al. Clinical characteristics and prognostic factors of splenic abscess: A review of 67 cases in a single medical center of Taiwan. World J Gastroenterol. 2006;12:460–4.

[4] Chou YH, Tiu CM, Chiou HJ, Hsu CC, Chiang JH, Yu C, et al. Ultrasound-guided interventional procedures in splenic abscesses. Eur J Radiol. 1998;28:167–70.

[5] Agarwal D, Arora D, Avasthi A, Singhal S. Prospective observational study of splenic abscess (A study of 18 cases in term of clinical character, outcome and prognostic factors) CIB Tech J Surg. 2015;4:17–21.

[6] Bhongle NN, Nagdeo NV, Thombare VR. A splenic abscess which was caused by Salmonella typhi in a non sickler patient: A Rare case finding. J Clin Diagn Res. 2013;7:537–8.

[7] Ferraioli G, Brunetti E, Gulizia R, Mariani G, Marone P, Filice C, et al. Management of splenic abscess: Report on 16 cases from a single center. Int J Infect Dis. 2009;13:524–30.

[8] Huang DB, DuPont HL. Problem pathogens: Extra-intestinal complications of Salmonella enterica serotype typhi infection. Lancet Infect Dis. 2005;5:341–8.

[9] Anuradha S, Singh NP, Agarwal SK. Splenic abscess – A diversity within. J Indian Acad Clin Med. 2000;1:279–81.

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[10] Thanos L, Dailiana T, Papaioannou G, Nikita A, Koutrouvelis H, Kelekis DA, et al. Percutaneous CT-guided drainage of splenic abscess. AJR Am J Roentgenol. 2002;179:629–32.