

Percutaneous Drainage of Splenic Tubercular Abscess: Assessment of Effectiveness and Safety

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Abstract

Case Report

Splenic tubercular abscess is a rare pathologic condition and mainly affects immunocompromised individuals. Open surgery and antituberculous drugs was the treatment of choice. Mini invasive procedures such as percutaneous catheter drainage is currently an effective and safe alternative to splenectomy. We present a case of a 24-year-old man with recently diagnosis of Hodgkin's lymphoma with good socioeconomic background, who endured fever and left upper abdominal pain; however, computed tomography scan for extension of Hodgkin's lymphoma revealed a large splenic collection with thick rim interpreted as abscess. Percutaneous drainage of the abscess was performed by interventional radiology. Diagnosis of mycobacterium tuberculosis was confirmed by rapid molecular detection using automated GeneXpert MTB. Our case highlights the following: (a) The importance of minimal invasive procedure in health care system, that reduces length hospitalization, surgical complication and increase cost-effectiveness; (b) The safety of percutaneous drainage even in spleen which may scare radiologist.

Keywords: Splenic, tuberculosis, abscess, percutaneous drainage, US guided.

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INTRODUCTION

Splenic tubercular abscess is an uncommon entity, with a few reported cases [1]. Its frequently observed in immunocompromised patients [2-5]. Usually, it concerns disseminated TB, and primary splenic TB remains uncommon with only few cases published in the literature [6, 7].

Because of its wide range of nonspecific presenting symptoms, it is commonly misdiagnosed and imaging play a crucial contribution in early diagnosis. Traditionally surgery and antituberculous therapy was the principal therapeutics. More recently percutaneous imaging guided drainage was adopted as being safe and effective procedure in splenic abscess. [8-12].

We describe a rare case of tubercular splenic abscess in a Hodgkin's lymphoma patient. We report our experience of percutaneous drainage of splenic abscess under imaging guidance. We emphasize the efficacy of the procedure and cost-effectiveness, highlighting the safety and rapidity of this management.

CASE PRESENTATION

A 24-year old man with the chief complaints being fever, left upper abdominal pain and left cervical swelling which gradually increased in size and associated pain for 1 month. Had multiple medical visits and multiple courses of antibiotics over this period, with no reduction in symptoms. Physical examination revealed multiple palpable lymph nodes, including left submandibular and level II cervical lymph nodes with the largest one measuring approximately 2 cm × 3 cm in size, associated with smooth, firm, nontender mass in the left hypochondriac region.

Ultrasonography (US) revealed splenomegaly with a large splenic hypoechoic lesion with after enhancement suggestive cystic lesion within the spleen. The wall of the lesion was regular and thick. In neck, US confirmed the presence of large homogenous lymph nodes.

Computed tomography CT scan was performed before and after intravenous contrast administration, and explained a large well defined

8x7cm sized water attenuation lesion within the spleen (Fig-1). Two small adjacent cystic lesions were observed. Labs were remarkable for leukocytosis of 17.6/mm³, CRP level at 250mg/L.

Percutaneous drainage was performed under sonographic guidance, using a pigtail catheter 9F (Boston Scientific, Quincy, MA, USA). Analysis of pus was sterile but rapid molecular detection was positive for mycobacterium tuberculosis by the automated GeneXpert MTB system.

Simultaneous biopsy of cervical lymphnodes by automated core needle biopsy using an 18G device (Monopty™), revealed a histologic pattern of Hodgkin's lymphoma.

Control CT of splenic abscess realised after 48 h confirmed successful complete discharge of collection (Fig-2).

The patient was subsequently started on four-drug antitubercular protocol. He was referred to haematologist for management of his Hodgkin's lymphoma.



Fig-1: Axial of upper abdominal region CT after intravenous contrast injection, revealing large cystic lesion in spleen, associated with two similar perihilar collections, and rim enhancement



Fig-2: Axial CT after 48h drainage using catheter pigtail, with complete discharge of splenic abscess

DISCUSSION

Tuberculosis is a major health system threats all over the world and pulmonary tuberculosis is the most common manifestation. Extra pulmonary disease accounts for almost 15–20 % of all tuberculosis [7].

Primary splenic tuberculosis is rare, which usually affects immunocompromised patients [13]. Simultaneous Hodgkin's lymphoma diagnosis in our case, explained his underlying immunocompromised status. To our knowledge this is de first report of this pathologic association. Splenic abscess is an extremely rare condition with an incidence in autopsy studies of 0.14–0.7% [14].

Clinical complaints may be non-specific, and diagnosis of splenic TB is often delayed. Fever, weight loss, anorexia, and abdominal pain are the chief symptoms. Imaging play a major role in diagnosis and guidance of puncture or drainage treatment option [15].

It helps to assess and characterize the lesion, identify a suitable site for aspiration and in percutaneous drainage.

On ultrasonography (US), hypoechoic lesions represent tuberculomas, which may be multiple and necrotic or hemorrhagic; whereas, anechoic lesions with thick wall are more suggestive of abscess [16]. On CT, splenic TB has a characteristic appearance of solitary or multiple hypodense nodular areas. Water condensation with thick wall enhancement indicates abscess formation [17].

Biological confirmation is still necessary to confirmate tuberculous origine of the abscess. Direct analysis and culture were the traditional tools, with high rate of false negative results. More recently, rapid molecular detection using automated GeneXpert MTB system has a combined sensitivity and specificity of 77.3% and 98.2%, respectively, for extrapulmonary TB [18].

Classically patients with tubercular abscess, were treated by splenectomy and antitubercular protocol. In our case, because of the risk of surgery and young age of the patient, percutaneous drainage of the abscess was carried out with successful and safe installation of a catheter during 48h. Subsequently antitubercular protocol was prescribed. After ablation of catheter, patient was referred to haematologist for management of his associated Hodgkin's lymphoma.

CONCLUSION

TB should be considered as differential diagnosis in case of isolated splenic abscesses in immunocompromised patients from endemic areas. Clinical manifestations remain non-specific and imaging is crucial for prompt and faster diagnosis. Also,

imaging allows percutaneous puncture and drainage guidance. Mini invasive procedure offer many advantages and is obviously preferred to surgical splenectomy.

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