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Case Report

Spontaneous Splenic Infarction as an Uncommon Cause of Fever in a Cirrhotic Patient

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SUMMARY

Spontaneous splenic infarction is a relative rare disease and usually happens in patients with some disorders that have potential of thromboembolism formation. The symptoms are often subclinical and non-specific so physicians easily forget this diagnosis. However, splenic infarction could cause destructive consequences such as hemorrhagic shock, especially in old or weak patients. In this article, we present one case with fever and unexplained abdominal pain; the patient was ultimately diagnosed spontaneous splenic infarction. Although early suspicion or diagnosis may be challenged, physicians should remember this disease and arrange associated investigation to make correct management.

1. Introduction

Spontaneous splenic infarction refers to a condition that oxygen supply of the spleen is interrupted due to occlusion of the splenic vascular or its branches, leading to parenchymal ischemia. The clinical spectrum ranges from asymptomatic disease, splenic abscess, to hemorrhagic shock. It frequently occurs in patients with specific underlying disease (myeloproliferative disorders, malignancy, atrial fibrillation…etc).[1] We presented one old-aged cirrhotic patient who diagnosed splenic infarction without common etiologies.

2. Case report

A 72-year-old female was previously diagnosed with cirrhosis and splenomegaly. She was admitted for fever and chills for 5 days. The patient's temperature was measured up to 39.1 °C. There were no obvious gastrointestinal complaints such as abdominal pain, vomiting, anorexia, dysphagia, constipation, diarrhea, and tarry stool. Physical examination demonstrated mild left abdominal tenderness without muscle guarding or rebounding tenderness. The white cell counts were 10900/μL (normal range: 4000–10000/μL) and the neutrophils account for 91.0%. The C-reactive protein was 6.578 mg/dL (normal range: 0.000–0.748 mg/dL). Initial fever work up including chest radiography and urinalysis were unremarkable. The abdominal echogram showed wedge-shape heterogenous hypoechoic lesions in spleen (Fig. 1). The abdominal computed tomography (CT) revealed one well-demarcated low-density area in spleen, favoring splenic infarction (Fig. 2). We suspected the diagnosis of secondary splenic abscess formation according to the clinical manifestation and heterogenous characteristics in echogram image. The patient didn't have evidence of hematological malignancy. The results of blood protein C, protein S, anti-nuclear antibody were normal. The electrocardiogram displayed normal sinus rhythm without atrial fibrillation and echocardiography didn't demonstrate vegetation. We prescribed intravenous antibiotics piperacillin/tazobactam, fluid supply and acetaminophen for fever control. We didn't insert the drainage tube and just closely followed abdominal echogram. After supportive care and medical treatment, the size of lesion decreased and the patient was discharged smoothly. The total duration of hospitalization was 17 days. After discharged, we followed abdominal echogram and CT, which demonstrated regression of the lesion size (Fig. 3).

3. Discussions

Splenic infarction is a relative uncommon disease. The arterial supply of the spleen consists of the splenic artery and short gastric

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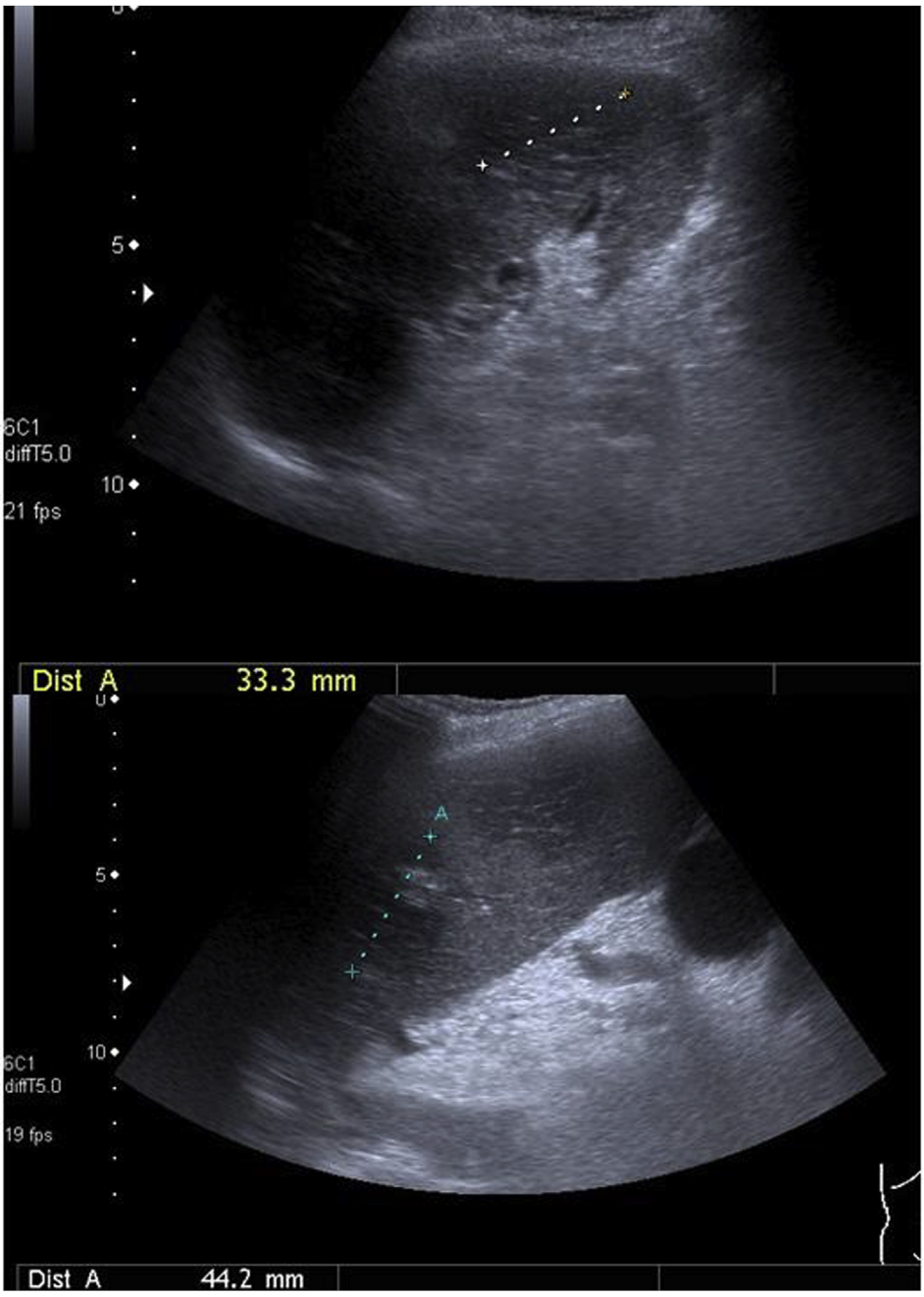

Fig. 1. The abdominal echogram showed heterogenous hypoechoic lesions in the spleen.

arteries. The splenic artery divided into 4–5 branches before entering the spleen; each branch supplies a functionally separate segment.[2] Therefore, segmental infarction would happen if one or more branches of splenic artery were occlusion by any cause.[3]

There are numerous etiologies of splenic infarction. The most common are hematological disorders leading to hypercoagulable states, such as myeloproliferative disorders, leukemia, sickle cell disease, protein C or protein S deficiency, lupus anticoagulant, etc.[4,5] Other malignancy and splenic infection (infectious mononucleosis, cytomegalovirus infection) may increase the tendency for clot formation.[6] Some embolic disorders (endocarditis, atrial fibrillation) could form blood clots in systemic circulation and cause splenic infarction.[7] Trauma to the spleen, which compromises its vascularity, may also contribute to disruption of splenic blood supply. In our article, the patient didn't have any evidences of above problems. However, liver cirrhosis with portal hypertension is known one of the common causes of hypercoagulable status and may leading higher tendency of thrombus formation. Sometimes, the diagnosis of splenic infarction was the clue that the patient may have other serious underlying diseases such as hypercoagulable state, atrial fibrillation…etc.[1]

The clinical manifestation of splenic infarction ranges from asymptomatic disease, splenic abscess, to hemorrhagic shock.[8] Abdominal pain, especially at left upper quadrant area was the most common symptoms of splenic infarction, followed by fever/chills, nausea and vomiting. The most frequent signs are left upper quadrate tenderness, leukocytosis, and increased lactate dehydrogenase.[1,3] Approximately 30% patients of splenic infarction are