CASE REPORT

A Rare Cause of Acute Abdominal Pain: Splenic Infarct (Case Series)

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SUMMARY

Splenic infarcts are rare cases. It may not be noticed in the emergency department because the clinical picture is likely to mimic various acute abdominal pains. The splenic infarct is often the result of systemic thromboembolism associated with cardiovascular disorders. The aim of this study is to present an evaluation of the patients that presented to the emergency department (ED) with abdominal pain and were diagnosed with splenic infarct.

Key words: Emergency department; D-dimer; infarct; spleen.

Introduction

Splenic infarction is a rare clinical condition. The presentation can mimic other causes of acute abdominal pain. The diagnosis is based on clinical presentation and imaging studies. İt is mostly seen in conjunction with hematologic diseases, vascular and thromboembolic disorders. İn this cases series we reported splenic infarcts presented with abdominal pain in emergency department.

Case Report

In this study, patients that presented to the adult ED (for patients over 18) of our hospital and were diagnosed with a splenic infarct between January 1, 2009 and January 1, 2013 were analyzed retrospectively. Age, gender, case history, triage category, complaints, pain characteristics, time when the pain started, vital and physical examination findings as well as the results of electrocardiogram (ECG), laboratory tests and radiological imaging were recorded.

Three female and three male patients were included in this study. The average age of patients was 62.17±12.28 (range: 22–90). Table 1 provides the details of case history, examination, laboratory tests, imaging and clinical results.

All patients had abdominal pain when they first presented to the ED. Abdominal pain was accompanied by nausea and vomiting in four patients, and by constipation in three patients. The pain started on average 7±4.64 (range: 1–30) days before the patients presented to the hospital. The evaluation of vital findings showed that four patients had tachypnea and one patient had a high fever. The medical history of patients included chronic obstructive pulmonary disease, congestive heart failure, mitral valve replacement, diabetes mellitus, asthma and brucella. According to the ECG results, one patient had atrial fibrillation. The abdominal examination showed three patients had sensitivity throughout, two patients had epigastric sensitivity and one patient had sensitivity in the left upper quadrant while two patients had rebound tenderness and guarding. The laboratory test results of three patients revealed high leucocyte values. The D-dimer test was performed on two patients, which revealed high values (see Table 1). The bedside ultrasound imaging did not indicate any pathological results apart from a hypoechoic

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Table 1. Demographic and clinical characteristics of patients

Characteristics	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Age	79	26	90	83	22	73
Sex	Male	Female	Male	Female	Male	Female
Triage category	2	3	1	1	3	1
Symptoms	Abdominal pain, constipation	Abdominal pain	Abdominal pain	Abdominal pain, nausea, vomiting and constipation	Abdominal pain	Abdominal pain, nausea, vomiting and constipation
Onset of the pain	4 hours	3 days	1 day	30 days	2 days	5 days
Medicine/drugs/other	Smoke/alcohol	–	–	–	Smoke, Coumadin	
Tension arterial (mmHg)	140/80	110/80	120/70	110/70	80/50	110/60
Pulse (/min.)	79	80	61	101	78	92
Respiratory rate (/min.)	24	18	28	22	26	19
Fever (‘C)	36.3	36.5	36.1	36.4	39.6	36.3
Past medical history	Asthma, Hypertension	C/S operation (6 months ago), rubella	COPD, DM, CHF	Anaemia (AA)	Aorta valve replacement	CHD, HT
EKG	Atrial fibrillation	NSR	NSR	NSR	NSR	NSR, LVH
Abdomen examination	Epigastric tenderness rebound and defence	Left upper quadrant tenderness	Diffuse tenderness	Diffuse tenderness	Diffuse tenderness	Epigastric tenderness and defence
Leukocytes (/mm^3)	22.000	3800	12800	19680	5600	6400
D-dimer (µg/dl)	2047	7780	–	–	–	–
Amylase (U/L)	109	–	316	164	91	31
CT findings	Infarct in upper and middle pole	Splenomegaly, infarct in lower and middle pole	Infarct in middle pole	Multiple infarcts in parenchyma	Infarct in middle inferior pole	Infarct in middle upper pole
Admission time (day)	8	4	12	5	13	7
Conclusion	Discharged	Discharged	Discharged	Discharged	Discharged	Discharged

lesion in spleen in one patient. All patients underwent an abdominal computerized tomography (CT) scan in the ED, the results of which were evaluated in the same unit. As a result of the CT scan, the radiology specialists reported a significant number of hypodense lesions that were likely associated with an infarct, and these findings were considered to confirm the presence of a splenic infarct (Figure 1a, b). All patients diagnosed with a splenic infarct were hospitalized. The average period of stay in the hospital was 8.16±1.49 (range: 4–13) days. The patients were discharged after conservative treatment, since none of them developed severe complications or mortality.

Discussion

Splenic infarction occurs as a result of tissue necrosis that develops due to parenchymal ischemia, which is a result of the interruption of arterial blood supply to the spleen. The infarct may occur in a segment of the spleen or in the complete spleen. Infiltrative hematologic disorders that cause the congestion of splenic circulation with abnormal cells or thromboembolism constitute the most common (88%) causes of an infarct.[1] It was reported that the rate of splenic infarction development ranges from 50 to 72% in CML and myelofibrosis patients.[1] Splenic infarction may also develop secondary to cardiovascular disorders, autoimmune/collagen tissue diseases, trauma, surgery (pancreatectomy or liver transplantation) or an infection. In 16.6% of patients, it is the first symptom of an underlying disease.[2] In the present study, four patients had a risk factor for thromboembolism (patients taking warfarin due to coronary artery disease, congestive heart failure, diabetes mellitus, chronic obstructive pulmonary disease, hypertension and valve replacement). No hematological diseases were detected according to medical history or clinical follow-up of any patients. As reported in the literature as a rare occurrence, one patient had a active brucella infection.[3]