Acute Abdominal Pain with an Unusual Etiology: Splenic Infarction in a Diabetes Patient

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Splenic infarction is a rare clinical event caused by reduced blood flow to the spleen. Its presentation can mimic other causes of acute abdominal pain. The most frequent causes of splenic infarction include thromboembolic events, malignant hematologic neoplasms, and vasculitides. A few reports of single or multiple cases of diabetes-induced splenic infarction have been published in medical journals. Herein, we report a 67-year-old patient with diabetes-associated splenic infarction who presented to an emergency department with acute abdominal pain.

Keywords: Acute abdomen, splenic infarction, diabetes mellitus

INTRODUCTION
Splenic infarction is a relatively rare event in which a portion of the spleen dies due to interruption of the blood supply to the affected tissue for any reason. An interruption in the blood supply can be caused by thrombosis, emboli, changes in blood pressure, twisted blood vessels, trauma, and blood disorders (e.g., leukemia and abnormal blood coagulation). The severity of symptoms depends on the amount of splenic tissue affected (1). Herein, we present a patient with splenic infarction secondary to diabetes mellitus who subsequently developed sterile peritonitis as a cause of acute abdominal pain.

CASE PRESENTATION
A 67-year-old woman with diabetes mellitus was admitted to our hospital complaining of acute abdominal pain in the upper left quadrant, nausea, and vomiting lasting 2 days. Her medical history included congestive heart failure, hypertension, and diabetes mellitus. She was treated with spironolactone. Physical examination on admission revealed palpable splenomegaly. There was tenderness in all quadrants, with guarding and rebound tenderness. During laboratory investigations, the following results were revealed: white blood cell count, 15,700/mm³ (neutrophils, 91%); hematocrit, 43%; hemoglobin, 14.1 g/dL; platelet count, 245,000/mm³; fasting blood glucose, 320 mg/dL; C-reactive protein, 9.63 mg/dL (normal, 0–0.8 mg/dL); lactate dehydrogenase, 1130 U/L (normal, 240–480 U/L); and aspartate transaminase, 61 U/L (normal, 0–38 U/L). There was no gross pathology in her echocardiogram. Computed tomographic (CT) images of the abdomen depicted regions of low attenuation in the spleen that were consistent with acute infarction over nearly three-fifths of the spleen (Figure 1). The patient was transferred to the operating room for emergency surgery. During the surgery, an area of infarct (8x6 cm) was found in the spleen and a total splenectomy was performed. The postoperative period was uneventful and the patient was discharged on postoperative day 5. Informed consent was obtained from the patient who participated in this case.

DISCUSSION
Splenic infarction secondary to diabetes mellitus is a rarely encountered clinical event. Although there are numerous causes of splenic infarct, the majority (88%) of cases involve either infiltrative hematologic diseases, which cause congestion of the splenic circulation by abnormal cells, or thromboembolic conditions, which obstruct larger vessels (2).
Splenic infarction is caused by ischemic events in the spleen. Patients with diabetes mellitus often have impaired vascular endothelial function, including altered vasomotor activity, vascular smooth muscle cell dysfunction, overproduction of inflammatory cytokines and chemokines, impaired platelet function, and abnormal coagulation. These abnormalities lead to increased vasoconstriction, thrombosis, and inflammation, which may cause splenic infarction (6). It is notable that, owing to the absence of complications (e.g., abscess or pseudocyst formation, hemorrhage, and rupture), splenic infarction was the only cause of acute abdominal pain in our patient.

CONCLUSION
In this case report, we have described a rare presentation of splenic infarction in a patient with diabetes mellitus. As a rare cause of acute abdominal pain, splenic infarction is likely to contribute to the heterogeneous clinical manifestations of diabetes mellitus. Surgery is indicated for patients with complications and for patients with acute abdominal pain.

Informed Consent: Written informed consent was obtained from patient who participated in this study.

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REFERENCES