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QUIZ PAGE
OCTOBER 2007

CLINICAL PRESENTATION

A 67-year-old man presented with acute onset of right-sided abdominal and flank pain 16 days after laparoscopic low anterior resection of a rectal adenocarcinoma. His medical history was notable for anterior wall myocardial infarction 6 years before and left ventricular dysfunction without anticoagulant therapy. The patient was febrile to 38°C. Laboratory data showed a serum creatinine level increased to 1.9 mg/dL (168 μmol/L) from 0.8 mg/dL (71 μmol/L) 2 months before, lactate dehydrogenase level of 2,300 IU/L, and white blood cell count of 11,500/μL. Urinalysis showed no hematuria or proteinuria, and electrocardiogram showed sinus rhythm with ventricular premature beats. Computed tomography (CT) with intravenous contrast was performed.

Figure 1. Abdominal CT scan with intravenous contrast.

- **What do you observe on the abdominal CT?**
- **What is your diagnosis?**

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ANSWERS

DISCUSSION

What do you observe on the abdominal CT?

As seen in Fig 1, CT of the abdomen with intravenous contrast showed a normal-sized right kidney with absence of the nephrogram consistent with global infarction.

What is your diagnosis?

CT of the chest with intravenous contrast (shown in Fig 2) showed decreased enhancement in the anteroapical cardiac wall with a hypoattenuated mass in the left ventricle consistent with an old myocardial infarction and left ventricular thrombus that was confirmed by echocardiography.

Patients with acute renal infarction commonly present with persistent abdominal and flank pain and a history associated with a high risk of thromboembolism. Within 24 hours of onset of symptoms, most patients show an increased serum lactate dehydrogenase level and hematuria. Atrial fibrillation, previous embolism, and valvular and ischemic heart disease are major risk factors for acute renal infarction.[1] CT with intravenous contrast is considered the imaging technique of choice for the diagnosis of acute renal infarction.[2] The differential diagnosis of a nonenhancing kidney includes embolus, thrombosis, renal artery dissection, and traumatic or iatrogenic injury of the renal artery. The patient in this vignette had increased risk of thromboembolism because of adenocarcinoma of the rectum and an old anterior wall myocardial infarction with left ventricular dysfunction while anticoagulant therapy was being withheld.

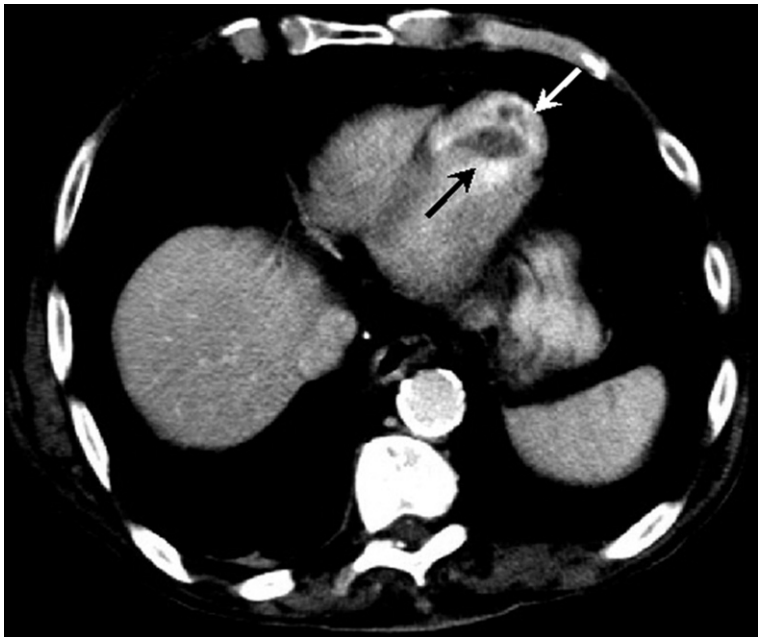

Figure 2. Computed tomographic scan with intravenous contrast of the chest shows decreased enhancement in the anteroapical cardiac wall (white arrow) with a hypoattenuated mass in the left ventricle (black arrow), consistent with an old myocardial infarction and left ventricular thrombus.

FINAL DIAGNOSIS

Acute right renal infarction caused by thromboembolism from the left ventricle.

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