Acute Flank Pain Due to Renal Infarction: Limitations of Unenhanced CT

Jamila Ahmed Al-Dossary, MBBS, SSC-Rad, FKFR*
Varanasi VR Krishna, MD, FRCR** Nawal Ebrahim Al-Hamar, MD, CABR***

A fifty-two-year-old woman developed severe right flank pain; she had an initial non-contrast CT, which was inconclusive. Subsequently, contrast enhanced CT showed subtotal infarction of the right kidney and occlusion of the right main renal artery. The current trend is using unenhanced helical CT for the diagnosis of acute flank pain; therefore, the diagnosis of acute renovascular occlusion is delayed. Although unenhanced helical CT can show other abdominal conditions such as appendicitis, diverticulitis, adnexal disease and aortic rupture, it cannot show acute renal artery occlusion.

Contrast-enhanced CT was done to arrive at the final diagnosis, as the laboratory results were not conclusive and the patient had continuous flank pain for 48 hours.

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Acute renal infarction is a rare condition with an incidence of 0.004% to 0.007% at emergency department visits and 1.4% at autopsy1. Diagnosis and initiation of appropriate treatment are often delayed due to low index of suspicion by physicians and non-specific nature of presenting symptoms which are often confused with those of renal colic. Because of the current trend of using unenhanced helical CT for the evaluation of acute flank pain, the diagnosis of renal infarction is often overlooked2. An early diagnosis is important for prompt initiation of treatment with anticoagulants or embolectomy to prevent irreversible renal damage3. The possibility of renal infarction should be considered in the setting of undiagnosed flank pain with normal findings on unenhanced CT especially in patients with risk factors for this disease. A contrast enhanced CT should be performed early to confirm the diagnosis.

We report a case of a 52-year-old female who presented with intense flank pain following knee replacement, and in whom a diagnosis of acute renal infarction was confirmed by contrast enhanced CT of abdomen.

THE CASE

A fifty-two-year-old woman was admitted for a unilateral compartmental knee

* Consultant Radiologist
** Former Senior Resident
*** Senior Resident
Radiology Department
Salmaniya Medical Complex
Email: nawal2004@hotmail.com