

Acute pyelonephritis in a horseshoe kidney

Hyun Ah Kim and Doo Ryeon Chung

Division of Infectious Diseases,
 Department of Internal Medicine,
 Samsung Medical Center,
 Sungkyunkwan University School
 of Medicine, Seoul, Korea

Received: November 5, 2012
 Revised : November 20, 2012
 Accepted: December 3, 2012

Correspondence to
Doo Ryeon Chung, M.D.
 Tel: +82-2-3410-0323
 Fax: +82-2-3410-0064
 E-mail: drchung@skku.edu

A previously healthy 58-year-old woman presented to the emergency room with a 4-day history of fever and abdominal pain. The physical examination revealed abdominal tenderness that was greatest on the left side. Laboratory tests showed leukocytosis (15,160/ μ L) and pyuria. Contrast-enhanced computed tomography of the abdomen revealed a horseshoe kidney with multiple perfusion defects (Fig. 1). She was diagnosed with acute pyelonephritis in a horseshoe kidney, which explained why she had abdominal pain and tenderness, rather than flank pain and costovertebral angle tenderness. The urine culture grew *Escherichia coli*. She improved after starting ciprofloxacin, which was administered for 4 weeks. A horseshoe

kidney is a congenital fusion anomaly of the kidneys, with fusion occurring at the lower poles in most cases. This anomaly increases the risk of infections due to a combination of reflux disease, urine stasis, and stone formation. Imaging studies are not routinely recommended for diagnosing acute pyelonephritis. With horseshoe kidney infections, however, in which the unusual location of pain and tenderness might lead to an incorrect diagnosis, imaging studies play a pivotal role in diagnosing infections and associated complications.

Conflict of interest

No potential conflict of interest relevant to this article is reported.

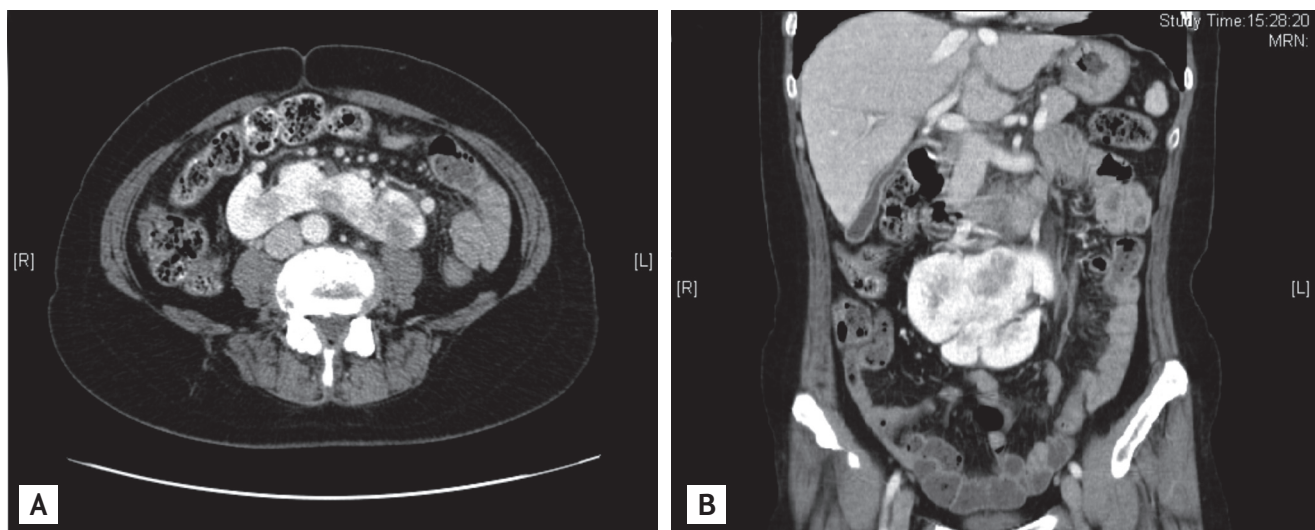


Figure 1. Enhanced abdominal computed tomography scans of the patient. (A) An axial scan shows fused kidneys with multiple low density lesions anterior to aorta and inferior vena cava. (B) A coronal scan shows fused kidneys located in the midline of the abdominal cavity.