Acute focal bacterial nephritis

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DESCRIPTION

A 23-year-old woman presented with fever at 38.2°C, chills and right flank pain. She had felt the sensation of residual urine for 10 days. Physical examination revealed positive right costovertebral angle tenderness. The laboratory examination showed that white cell count and C reactive protein were elevated at 18 600/mm^3 and 8.68 mg/dL, respectively. Urinalysis showed numerous white cells count. A CT scan disclosed a wedge-shaped decreased enhancement area without outer cortical contrast uptake (cortical rim sign) in the right kidney (figure 1). Acute focal bacterial nephritis (AFBN) was diagnosed and intravenous ceftriaxone was initiated. *Escherichia coli* grew on urine and blood cultures subsequently. She improved uneventfully and follow-up CT scans returned to normal findings.

AFBN, previously known as acute lobar nephronia, has been recognised as localised infection of the kidney without abscess formation.[1] It is speculated to be a middle disorder between uncomplicated pyelonephritis and renal abscess.[2] Characteristic CT findings are inhomogeneous or wedg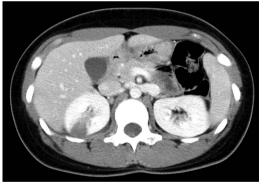e-shaped parenchyma with decreased enhancement.[3] These features are crucial to differentiate AFBN from uncomplicated pyelonephritis, renal abscess and pyonephrosis, which may require different treatment strategies with more extensive interventions.[3] The absence of cortical rim sign can be helpful in differentiating AFBN from renal infarction.[4] *E. coli* is the most common causative bacteria of AFBN. Most cases respond well to conservative treatment with antibiotics.

Learning points

▶ Acute focal bacterial nephritis (AFBN) is a middle disorder between uncomplicated pyelonephritis and renal abscess.
▶ AFBN may present inhomogeneous or wedge-shaped parenchyma with decreased enhancement on CT.
▶ These CT features are crucial to differentiate AFBN from uncomplicated pyelonephritis and renal abscess, which may require different treatment strategies.

Figure 1 CT scan showing a wedge-shaped area with decreased enhancement in the right kidney.

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