45F with right flank pain, fever

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Emphysematous pyelonephritis
Axial NECT abdomen and pelvis demonstrates an enlarged, inflamed right kidney with mottled intraparenchymal gas (arrow).
Emphysematous pyelonephritis

• Renal infection characterized by gas formation within or around the kidney
• High mortality
• Risk factor: DM (90%)
• Organisms: E coli, Klebsiella, Proteus
• Huang-Tseng CT classification:
  – 1: gas in collecting system
  – 2: gas in renal parenchyma
  – 3: gas in renal parenchyma + extrarenal extension:
    • 3a: gas/abscess in perinephric space
    • 3b: gas/abscess in paranephric space
  – 4: bilateral emphysematous pyelonephritis or solitary kidney with emphysematous pyelonephritis
• Treatment: IV antibiotics (mild), nephrectomy (severe)
References
