key points

SELECTED BY

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Acute pyelonephritis is suggested by the constellation of fever (temperature ≥ 38.5° C), flank pain (typically unilateral), nausea and vomiting, and costovertebral angle tenderness. Complaints typical of lower UTI are variably present. The severity of symptoms ranges from a mild pyrexial illness to life-threatening sepsis.

The diagnosis of acute pyelonephritis should be suspected on the basis of the history and clinical examination. If the urine dipstick is negative for nitrites and leukocyte esterase this does not exclude the diagnosis, but it should prompt a re-evaluation of the clinical features and consideration of other potential diagnoses.

Antibiotic therapy should be initiated without delay; this can be modified subsequently depending on the culture result. Antibiotics that are typically effective in lower urinary tract infections are frequently inadequate in acute pyelonephritis, and more prolonged therapy is necessary.

Patients warranting hospital admission are those showing signs of sepsis and those who are at increased risk of developing potentially life-threatening complications. Pregnant women and immunocompromised patients are particularly at risk.

Potential nephrotoxic agents (ACE inhibitors, angiotensin receptor blockers, non-steroidal medications) should be discontinued until symptoms resolve and the patient is eating and drinking normally.

Review of the clinical course and urine culture results is necessary to ensure that the patient is improving. Patients who have not improved within two days of commencing antimicrobial treatment should be referred to secondary care unless the infecting pathogen is not susceptible to the agent originally used, an alternative appropriate antibiotic is available, and the patient remains well enough for community care.