Pyelonephritis Assessment

Pyelonephritis is inflammation in an area of the kidney called the renal parenchyma. This condition is caused by a bacterial infection that begins in the lower urinary tract and travels upward and into the kidney(s). Patients with vesicoureteral reflux, urinary obstruction, or patients who are pregnant are at an increased risk of developing pyelonephritis. Presenting symptoms include: fatigue, fever, chills, flank pain, nausea, vomiting, dysuria, and possible hematuria.



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Cause/Mechanism

Ascending Urethral Bacteria
Up-arrow U-wreath Bacteria-guy
Pyelonephritis develops when bacteria in the urethra travels upward and into the kidney(s). Although bacteria such as E. coli, Proteus, Klebsiella, and Enterobacter are usually responsible for the infection, fungi, protozoa and viruses may also precipitate pyelonephritis. Patients with vesicoureteral reflux or urinary obstruction are at an increased risk. Changes in urinary physiology related to pregnancy make pregnant women especially susceptible during the second trimester and more than half the cases develop in the right kidney.

Assessment

Dysuria
Urine-in-flames
Symptoms such as painful urination, increased urinary frequency, and urgency occur early, affecting the lower urinary tract infection. As the disease progresses to the kidney, hematuria and the formation of WBC casts may occur.

Fever
Fever-beaver
Fever develops as a more severe localized or developing systemic infection in patients with pyelonephritis. Patients experience problems with thermoregulation, and may also experience chills and body aches.

Fatigue
Sleepy-guy
Level of fatigue can vary depending on the extent of the infection. Some patients may complain of mild fatigue, while others may report moderate exhaustion and malaise.

Flank Pain
Flank Pain-bolt
Pain in the patient’s side and back is a clinical manifestation characteristic of pyelonephritis. Pain in these areas is referred from the affected kidney.

Costovertebral Tenderness
Castro-vertebrae and Tenderizer
The costovertebral angle is found in the area of the twelfth rib and the vertebral column, roughly posterior to the anatomic kidney. In patients with pyelonephritis, this area may elicit tenderness with muffled percussion over the affected side.

Nausea and Vomiting
Vomit
Systemic signs and symptoms of acute pyelonephritis include nausea and vomiting as the infection develops. A classic triad of signs and symptoms for pyelonephritis is unilateral flank pain, nausea with vomiting and the presence of a fever.

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