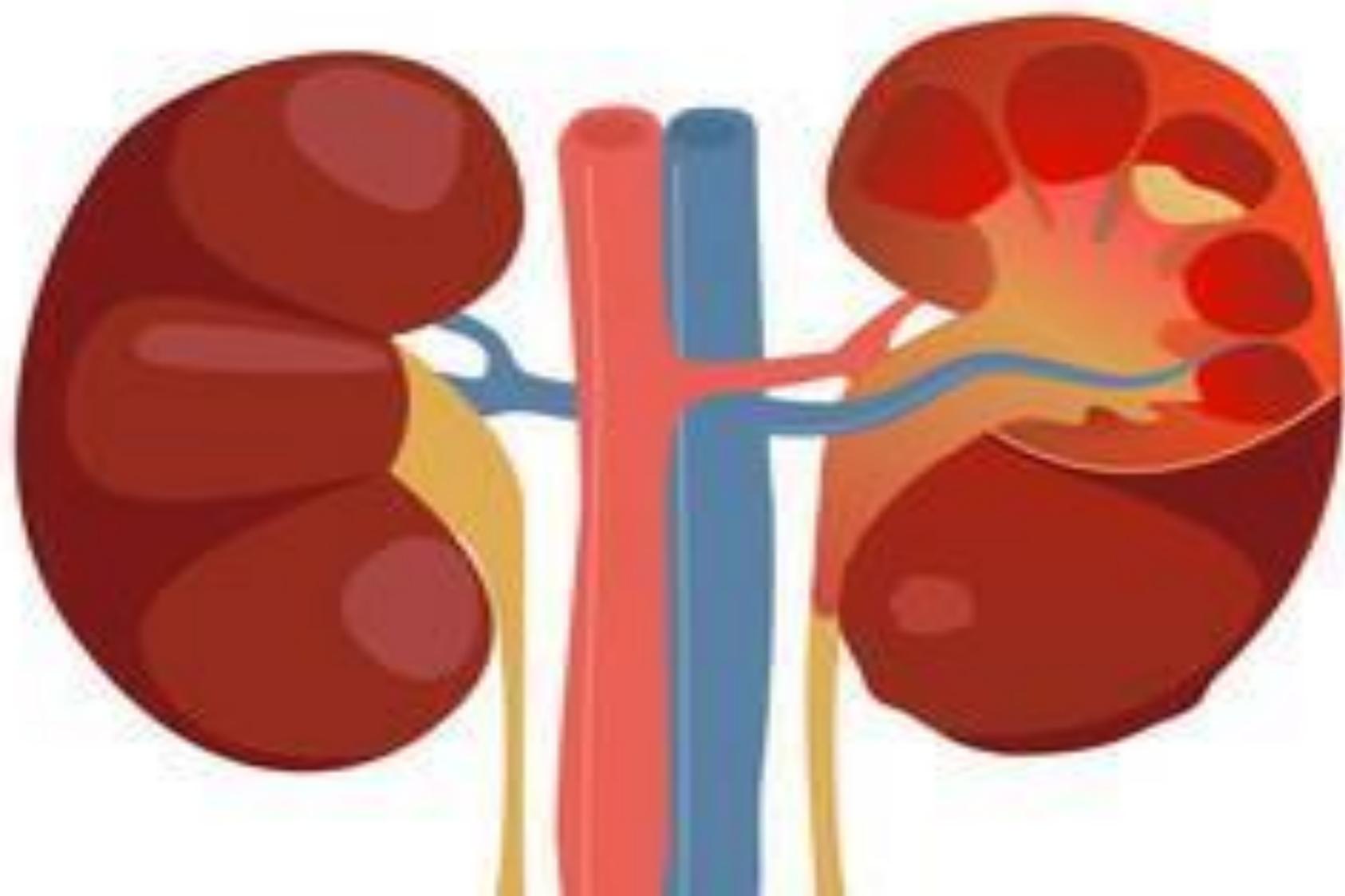


Pyelonephritis



DEFINITION

- Pyelonephritis is a bacterial infection of the renal pelvis, tubules, and interstitial tissue of one or both kidneys.

ETIOLOGY

- Infection
- Weak immune system.
- Excessive alcoholism
- Frequent use of pain killers
- Nutritional deficiencies

Commonest microorganism-

- Enteric bacteria, such as **E. coli**, is most common pathogen
- other gram-negative pathogens include **Proteus** species, **Klebsiella**, and **Pseudomonas**.
- Gram-positive bacteria are less common, but include **Enterococcus** and **Staphylococcus aureus**

CLINICAL FEATURES

- Fever, chills, headache, malaise
- Flank pain (with or without radiation to groin)
- Nausea, vomiting, anorexia
- Costovertebral angle tenderness
- Urgency, frequency, and dysuria may be present

DIAGNOSTIC EVALUATION

- History – urinary obstruction, systemic infection
- Physical examination- pain and tenderness
- Urinalysis-pyuria, bacteriuria, RBCs and WBCs in urine
- Hematology- elevated WBC count
- An ultrasound study or a CT scan may be performed to locate any obstruction in the urinary tract.
- An IV pyelogram may be indicated with pyelonephritis if functional and structural renal abnormalities are suspected.
- Urine culture and sensitivity tests are performed.

MEDICAL MANAGEMENT

For severe infection antibiotic therapy is recommended.

- Usually immediate treatment is started with a penicillin or aminoglycoside I.V. to cover the prevalent gram-negative pathogens; subsequently adjusted according to culture results.
- An oral antibiotic may be started 24 hours after fever has resolved and oral therapy continued for 3 weeks.

- Oral antibiotic therapy is acceptable for outpatient treatment.
- Co-trimoxazole (Bactrim, Septran) or a fluoroquinolone is used; 10 to 14 days is the usual length of treatment.
- Repeat urine cultures should be performed after the completion of therapy.
- Supportive therapy is given for fever and pain control and hydration.

NURSING MANAGEMENT

- Administer or teach self administration of antibiotics as prescribed and monitored for effectiveness and adverse effects.
- Assess vital signs frequently, and monitor intake and output; administer antiemetic medications to control nausea and vomiting.
- Administer antipyretic medications as prescribed and according to temperature.

- Report fever that persists beyond 72 hours after initiating antibiotic therapy.
- Use measures to decrease body temperature
- Correct dehydration by replacing fluids, orally if possible, or I.V.
- Monitor CBC, blood cultures, and urine studies for resolving infection.

PYELONEPHRITIS

An illustration of two red, bean-shaped kidneys with sad faces. The kidney on the left has a yellow plus sign on its side, and the kidney on the right has a yellow plus sign on its side. They are connected to a central vertical tube representing the ureters. The background is white with scattered yellow plus signs, red dots, and blue plus signs.

THANK YOU !!!