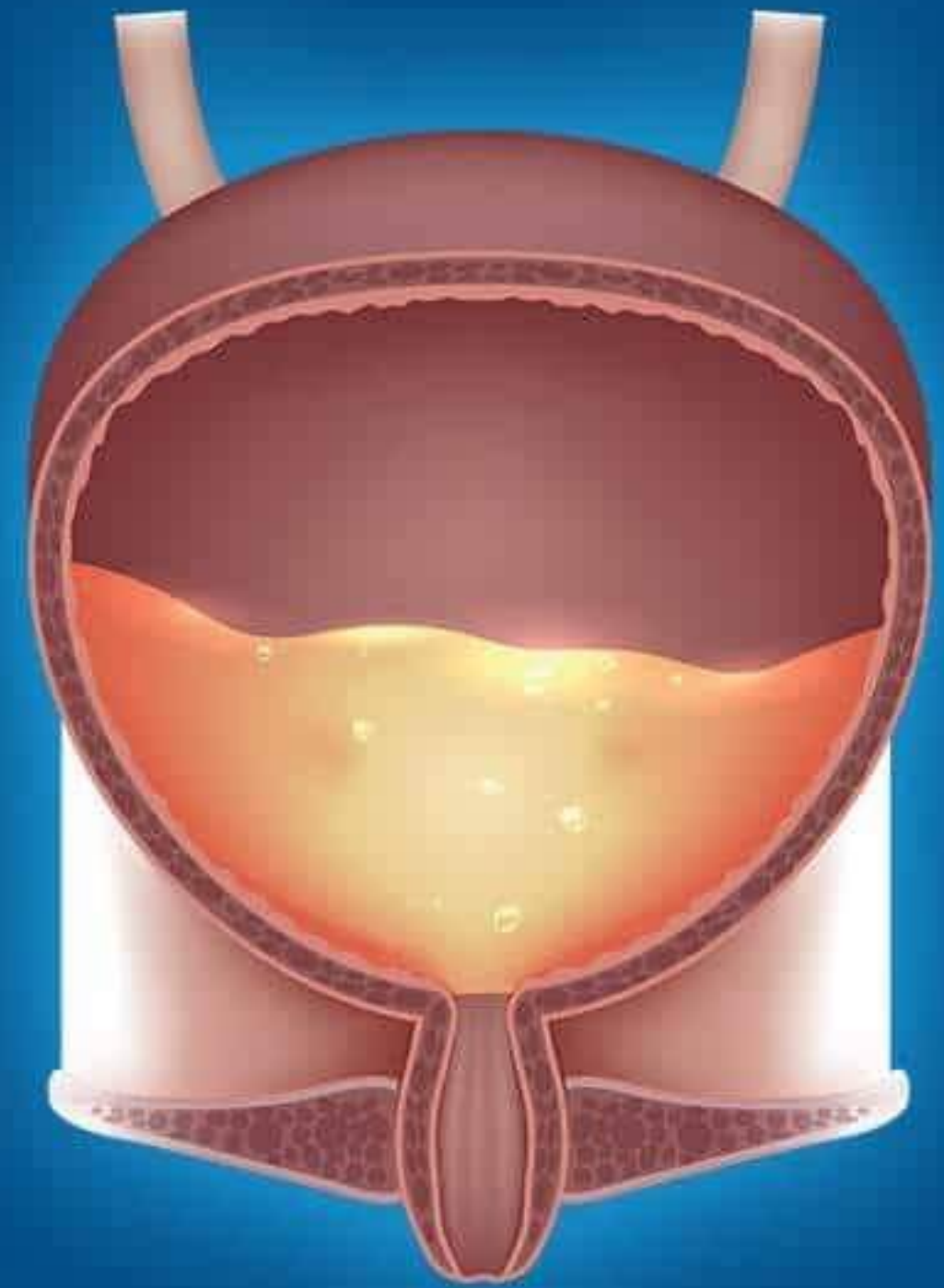


Cystitis

NURSING CARE MANAGEMENT



Symptoms

- Dysuria
- Frequency
- Nocturia
- Urgency of micturition.
- Other symptoms include suprapubic pain, cloudy or foul smelling urine and haematuria.

Causes

- The most common cause is bacterial infection
 - Escherichia coli is the pathogen in 70% of uncomplicated case of lower urinary tract infections.
 - Other organisms include Proteus mirabilis, Klebsiella pneumoniae, Staphylococcus saprophyticus, Staphylococcus aureus and Pseudomonas species.
- Urethral Syndrome -not associated with any infection
- Rarely kidney or bladder stones, prostatism, diabetes

Prevention

- Drinking plenty of fluids helps prevent cystitis in the first place.
- If cystitis follows sexual intercourse, some advise passing urine soon after to try and prevent it.
- There is no evidence to suggest a link between lower urinary tract infection and use of bath preparations

Beware!

- Pregnant
- Under age 12
- Males
- Systemically ill (fever, sickness, backache)
- Catheterised patients
- Kidney or bladder stones

Investigation

- Urine dipstick
 - can be done in the surgery and will be positive for nitrates and leucocytes (leukocyte esterase test). This helps to differentiate those with UTI from the 50% with urethral syndrome.
- Urine microscopy and culture reveals significant bacteruria (usually $>10^5$ /ml).
- Asymptomatic bacteruria
 - is present in 12-20% of women aged 65-70 years and does not impair renal function or shorten life so no treatment
 - in 4-7% of pregnant women and associated with premature delivery and low birth weight and always requires treatment.

Complications and Prognosis

- Ascending infection can occur, leading to development of pyelonephritis, renal failure and sepsis.
- In children, the combination of vesicoureteric reflux and urinary tract infection can lead to permanent renal scarring, which may ultimately lead to the development of hypertension or renal failure. 12-20% of children already have radiological evidence of scarring on their first investigation for UTI.
- Urinary tract infection during pregnancy is associated with prematurity, low birth weight of the baby and a high incidence of pyelonephritis in women.
- Recurrent infection occurs in up to 20% of young women with acute cystitis.

Management Issues - General

- 50% will resolve in 3 days without treatment
- No evidence to support “drink plenty”
- It is reasonable to start treatment without culture if the dipstick is positive for nitrates or leucocytes.
- MSU if dipstick negative but suspicion

Management Issues - General

- Culture is always indicated in
 - Men
 - Pregnant women
 - Children
 - Those with failure of empirical treatment
 - Those with complicated infection

Antibiotics

- Trimethoprim is an effective first line treatment.
- Cephalosporins are as effective as trimethoprim but more expensive and more likely to disrupt gut flora.
- Nitrofurantoin is as effective as trimethoprim but more expensive and frequently causes nausea and vomiting
- The 4-quinolones (ciprofloxacin, norfloxacin, ofloxacin) are effective in the treatment of cystitis. To preserve their efficacy, they should not usually be used as first line therapy

Antibiotics

- 3 days of antibiotic is as effective as 5 or 7 days
- Single dose antibiotic results in lower cure rates and more recurrences overall than longer courses.
- In relapse of infection (i.e. reinfection with the same bacteria), treatment with antibiotic for up to 6 weeks is recommended.

Antibiotics for UTI in Pregnancy

- Cephalosporins and penicillins are recommended in pregnancy because of their long term safety record
- Nitrofurantoin is also likely to be safe during pregnancy
- Quinolones, Trimethoprim and Tetracyclines are not recommended for use during pregnancy
- Seven days of treatment is required.
- Urine should be tested regularly throughout pregnancy following initial infection.