

UTIs IN OLDER MEN

Urinary tract infections (UTIs) are common among older persons. UTIs among men without indwelling catheters and younger than 60 years of age is relatively uncommon; however, the incidence increases substantially after the age of 60 years. Recurrent infection is also more common among older men than younger men.

UTIs can be divided into upper- and lower-tract infections. Upper-tract disease (ureteritis or pyelonephritis) affects the ureters or kidneys; whereas, lower urinary tract infection (urethritis, cystitis) affects the urethra or bladder. Cystitis (inflammation of the bladder) in men is uncommon but the prevalence increases with age.

Cystitis is often caused by infection and is usually accompanied by frequent painful urination.

Pyelonephritis (kidney infection) usually presents suddenly with fever, severe back pain at bottom of ribcage and burning, frequency and urgency with urination.

Causes

One of the most common causes of UTIs in older men is benign prostatic hypertrophy (BPH). Acute bacterial prostatitis (prostate infection) is a severe, potentially life-threatening systemic infection. Chronic bacterial prostatitis may present as recurring UTIs.

Other abnormalities of the urinary tract in men include bladder diverticula, renal cysts, urethral stricture and neurogenic bladder resulting from multiple sclerosis, diabetes, stroke or spinal cord injury.

Comorbidities

Urological coexisting conditions such as incontinence or urinary retention are often associated with an increased incidence of UTIs in men.

Older men with type 2 diabetes often have an increased susceptibility to UTIs. In addition, SGLT2 inhibitors such as dapagliflozin (Forxiga), empagliflozin (Jardiance) and ertugliflozin (Steglatro), used in the treatment of diabetes have been linked to increased risk for UTIs.

Signs and symptoms

Symptoms of a bladder infection or cystitis include:

- Dysuria
- Urinary frequency
- Urinary urgency
- Nocturia
- Suprapubic discomfort
- Haematuria (less common)

Acute dysuria (painful or difficult urination) is the most specific symptom of a symptomatic UTI in aged care residents. Pain is usually felt during voiding and resolves shortly after micturition. Pain at the start of urination usually indicates a urethral source of inflammation.

More severe pain occurring over the suprapubic area on completion of urination suggests inflammation of the bladder.

Dysuria is often associated with other irritative voiding symptoms, such as urgency, frequency and nocturia, but its most common cause is urinary tract infection.

Pyelonephritis or kidney infection presents with the following symptoms:

- Fever
- Costovertebral-angle pain or tenderness (flank pain)
- Varied lower urinary tract symptoms (e.g. irritative symptoms)

Acute bacterial prostatitis typically presents as fever (38°C or higher) and symptoms of a lower UTI.

Chronic bacterial prostatitis may be asymptomatic between UTIs, but usually pain and discomfort are present.

Asymptomatic bacteriuria

Asymptomatic bacteriuria is uncommon among younger men but is present in up to 30-40% of male residents of residential aged care homes.

Predictors of asymptomatic bacteriuria include:

- Functional disability
- Incontinence
- Immobility
- Dementia

continued over

Asymptomatic bacteriuria only requires treatment in very limited circumstances, such as men undergoing invasive urological procedures. For men undergoing joint replacement procedures, screening or treating asymptomatic bacteriuria is not recommended. Treatment is not indicated for indwelling catheter changes.

Assessment

Urine specimens should only be obtained from men who have symptoms or signs that are potentially attributable to urinary tract infection (see above), especially dysuria.

Cloudy or malodorous urine in aged-care facility residents who do not have other signs or symptoms of UTI should not be investigated or treated. As aged care residents have a high prevalence of bacteriuria, urine culture is not helpful in evaluating nonspecific symptoms.

Bacteriuria (bacteria in the urine) suggests urinary tract infection. Pyuria or presence of pus in the urine is a nonspecific finding that is frequent in older patients with or without bacteriuria and is not diagnostic of symptomatic urinary tract infection or indicate a need for antimicrobial treatment.

Treatment

Antimicrobial treatment depends on the infecting organism and susceptibilities, side effect profile and renal function.

Empirical therapy of acute cystitis in men in whom prostatitis is unlikely can be started whilst culture testing is performed.

Antibiotic therapy includes:

- Trimethoprim 300mg daily for 7 days
- Nitrofurantoin 100mg every 6 hours for 7 days

Nitrofurantoin should not be used if the resident has a fever or if prostatitis is suspected. Nitrofurantoin does not reach sufficient concentration in the prostate to be effective.

If trimethoprim or nitrofurantoin cannot be used, cefalexin is recommended in doses of 500mg every 12 hours for 7 days.

If culture and susceptibility testing indicate the pathogen is resistant to these antibiotics, alternatives include:

- Amoxicillin 500mg every 8 hours for 7 days
- Trimethoprim/sulfamethoxazole every 12 hours for 7 days
- Amoxicillin/clavulanate 500/125mg every 12 hours for 7 days

Norfloxacin (400mg every 12 hours for 7 days) should only be prescribed if resistance to any of these antibiotics is confirmed.

Empirical treatment of non-severe pyelonephritis is usually treated with oral antibiotics without hospitalisation with amoxicillin/clavulanate 875/125mg every 12 hours for 14 days.

For residents with a documented penicillin hypersensitivity, ciprofloxacin 500mg every 12 hours for 7 days is recommended.

Culture results may indicate susceptibility to narrower-spectrum antibiotics including amoxicillin, trimethoprim, cefalexin or trimethoprim/sulfamethoxazole.

Treatment of severe pyelonephritis with fever and systemic symptoms will require intravenous antibiotics.

Prostatitis treatment

Acute bacterial prostatitis is caused by similar organisms to those associated with other UTIs. Empirical treatment while awaiting culture and susceptibility testing includes trimethoprim or cephalexin for 2 weeks duration. Severe acute bacterial prostatitis requires intravenous antibiotics.

Chronic bacterial prostatitis is rare; less than 10% of men with symptoms of chronic prostatitis (e.g. chronic prostatic pain, recurrent lower urinary tract symptoms) have a bacterial infection. Based on the results of culture and susceptibility testing, either ciprofloxacin, norfloxacin or trimethoprim are recommended for 4 weeks duration of treatment.

Alpha-blockers (e.g. alfuzosin, prazosin, silodosin, tamsulosin, terazosin) may diminish urinary obstruction and reduce future occurrences of prostatitis.

Summary

Urinary tract infections are rare in men younger than 60 years but increase in incidence with age. Most urinary tract infections in men affect the bladder and urethra. Benign prostatic hyperplasia is quite common among older men and increases the likelihood of infection. Dysuria is the most frequent complaint in men with UTI.

In general, all UTIs in men are considered complicated. Treatment with appropriate antibiotics should be continued for 7 days with men with cystitis, and 14 days for pyelonephritis. Duration of therapy should be indicated on the medication chart.

References

- New England Journal of Medicine* 2016;374:562-71.
- Australian Family Physician* 2011;40:758-67.
- Therapeutic Guidelines Ltd (eTG March 2020 edition)*

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