Nursing management of urinary tract infections

Sara Ribeiro looks at how nurses can assist older people through the diagnosis, treatment and prevention of a common infection

Abstract

Urinary tract infections (UTIs) are common in older people and can lead to serious complications. Infections can worsen underlying medical conditions, adversely affect recovery and be alarming to patients, their families and caregivers. UTIs have a complex pathophysiology but the most common cause is the ascent of bacteria from the periurethral area, which explains their prevalence in older women. As a result of antibiotic resistance, an accurate diagnosis is imperative and should be based on clinical history, presence of typical signs and symptoms and test results. Nurses can assist patients through the diagnostic process, treatment and prevention of UTIs, promoting their wellbeing and empowerment. This article explores the pathophysiology of UTIs and diagnosis, prevention and nursing management in a variety of care settings.

Keywords
Antibiotics, bacteria, diagnosis, nursing management, urinary tract infections

URINARY TRACT infections (UTIs) are one of the most common bacterial infections in older people and the second most common clinical indication for empirical antimicrobial treatment. Diagnosis is difficult in the older population and requires a systematic approach (Scottish Intercollegiate Guidelines Network (SIGN) 2012a). Older people often present comorbidities with symptoms mistaken for UTIs (SIGN 2012b). Nurses can assist with diagnosis and help prevent future infections by working closely with patients, families and carers.

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The aetiology of UTIs explains their predominance in women and increased risk of infection after catheterisation (Rahn 2008, Grabe et al 2013).

UTIs can also develop as a result of lymphatic or haematogenous spread of an existing infection elsewhere in the body. The infection is restricted to microorganisms such as S. aureus, Candida spp, Salmonella spp and Mycobacterium tuberculosis, which cause primary infections elsewhere in the body (Grabe et al 2013). A prevalence of 16.5% in women over 65 years of age increases to 30% in women over 85, making it a common problem in this group (Rowe and Juthani-Mehta 2014).

Classification

UTIs may manifest as bacteriuria, bacteraemia and urosepsis. Bacteriuria is the presence of bacteria in urine revealed by a quantitative urine culture or microscopy (Grabe et al 2013). It can be asymptomatic or symptomatic, depending on whether the patient presents with typical signs and symptoms of lower or upper UTI (Box 1) (SIGN 2012a). Anatomically, UTIs can be classified as lower, which includes urethritis (infection in the urethra) and cystitis (infection in the bladder), or upper when renal parenchyma and renal pelvis are affected (pyelonephritis) (Monahan et al 2006).

Bacteraemia refers to the presence of pathogens in blood culture. However, blood culture should not be routinely collected except in patients with urinary catheters, malignancies, those who do not respond to antimicrobial treatment (van Nieuwkoop et al 2010) and patients with suspected urosepsis (Kalra and Raizada 2009, Wagenlehner et al 2013).

Urosepsis relates to sepsis originating in the genitourinary tract and is a complex problem with treatment given in critical care (Wagenlehner et al 2013).