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The HPCSA and the Med Tech Society have confirmed that this clinical case study, plus your routine review of your EQA reports from Thistle QA, should be documented as a “Journal Club” activity. This means that you must record those attending for CEU purposes. Thistle will **not** issue a certificate to cover these activities, nor send out “correct” answers to the CEU questions at the end of this case study.

The Thistle QA CEU No is: **MT00025.**

Each attendee should claim **THREE** CEU points for completing this Quality Control Journal Club exercise, and retain a copy of the relevant Thistle QA Participation Certificate as proof of registration on a Thistle QA EQA.

Cycle 21 Organism 9:

Staphylococcus saprophyticus

Two distinct populations of patients develop urinary tract infections with Coagulase-negative staphylococci. Comparing urinary tract infections caused by *Staphylococcus saprophyticus* and Coagulase-negative staphylococci (CNS); *Staphylococcus saprophyticus* affects woman 95% in the age group 16 – 35 years old, while with CNS infections, men and woman are affected equally and patients are usually older than 50 years. With regard to the population at risk *Staphylococcus saprophyticus* is usually found in healthy outpatients, while CNS are found in hospitalised patients with urinary tract complications, 90% which are asymptomatic^{1, 2}.

Staphylococcus saprophyticus (*S. saprophyticus*) is an uropathogenic staphylococcus frequently isolated from young female outpatients with uncomplicated urinary tract infections. *S. saprophyticus* is a true urinary tract pathogen causing both upper and lower urinary tract infections¹. Symptoms of a urinary tract infection are present in more than 90% of woman from whom *S. saprophyticus* has been isolated. Pyuria is present in 70% - 85% of these women, with the organism culture contaminant rate only 5% of the time^{2, 3}. Signs, symptoms and urinalysis of woman infected with this organism are indistinguishable from those infected with enteric bacteria. It is clearly an organism predominantly infecting young, sexually active woman. Almost 70% of woman in one study gave a history of sexual intercourse within 24 hours preceding the onset of symptoms of their urinary tract infection³.

S A N A S



PROFICIENCY TESTING SANAS Accredited to ISO Guide 43 / ILAC G13

Staphylococcus saprophyticus is readily identified in the laboratory owing to its resistance to a 5µg novobiocin disk. Novobiocin resistance is rarely found among even multiple resistant CNS of other species that are cultured from urine².

Therapy is usually effective with most urinary tract antimicrobial agents. Recommended treatment is oral cephalosporins, amoxicillin/clavulanic acid, and fluoroquinolones. Therapeutic failures have been reported with sulphonamides and nitrofurantoin⁴.

References

1. Latham, RH. *et al.* Urinary tract infections in young adult woman caused by *Staphylococcus saprophyticus*. JAMA. 1983; 250: 3063-3066.
2. Nicolle, LE. *et al.* Characterization of Coagulase-negative staphylococci from urinary tract specimens. J Clin Microbiol. 1983; 17: 267-271.
3. Jordan, PA. *et al.* Urinary tract infections caused by *Staphylococcus saprophyticus*. J Infect Dis. 1980; 142: 142-515.
4. Coordinated multicenter study of norfloxacin versus trimethoprim-sulfamethoxazole treatment of symptomatic urinary tract infections. J Infect Dis. 1987; 115: 170-177.

Questions

1. How does *S. saprophyticus* differ from the other coagulase negative staphylococci?
2. How would you isolate and identify *S. saprophyticus*?
1. What antibiotics are used to treat a urinary tract infection caused by *S. saprophyticus*?