

### Serratia marcescens in neonatal intensive care unit: the crucial role of enhanced hand hygiene and environmental cleaning



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**Background:** *Serratia marcescens* is a well-known pathogen that causes serious and life threatening infection in neonates, including pneumonia, sepsis and meningitis. We describe an outbreak of *Serratia marcescens* in NICU in Khoula Hospital in Oman from August 2015 to Oct 2015. Enhanced infection control measures had led to successful eradication of the outbreak addressing the importance of optimization of cleaning and disinfection of breast milk pumps, environmental cleaning and compliance with hand hygiene.

**Methods:** We retrospectively identified all patients colonized or infected with this organism from January 2014 to the time of the outbreak. Once the outbreak was confirmed, case definition for suspected case was established as follows: An infant in NICU for at least 48 hours since 1st of August 2015 with invasive *Serratia* infection, including bacteremia, meningitis, conjunctivitis, skin and soft tissue infection or UTI. Environmental investigation was undertaken after extensive risk assessment, index patients line listing and analysis for possible environmental reservoir for the *Serratia*. These included near patient environment, ventilators and expressed milk.

**Results:** Data analysis of index patients to determine possible common source of the outbreak revealed no obvious link between the 7 cases. However we did extensive environmental sampling, including sinks, eye drops, cots and ventilators which were all negative. Samples of several patients expressed breast milk were positive with *Serratia* which had similar antibiogram to the outbreak isolates. Pulsed field gel electrophoresis showed that the milk isolates and the clinical isolates were identical.

**Conclusion:** Our outbreak highlights that shared electrical breast milk pumps can be important environmental source of *Serratia* outbreaks in NICU. Ability of this organism to become endemic in the unit with epidemic waves needs constant vigilance while adhering strictly to infection prevention and control measures.

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### Prozone Phenomenon and Penicillin Allergy in HIV-Infected Male with Ocular Syphilis



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The incidence of syphilis is increasing especially among men who have sex with men (MSM) infected with HIV. However because of its multitudinous unusual manifestations, it remains a diagnostic and therapeutic challenge to the modern era. Throughout the years, penicillin is the treatment of choice for all stages of syphilis. However, hypersensitivity reaction, like in this case, is the major problem in the use of penicillins.

The case presents a 25-year-old homosexual male, recently-diagnosed with HIV who presented with progressive blurring of vision following a history of pruritic rashes on both lower extremities. Important examination findings include madarosis with patchy loss of scalp hair, hyperemic conjunctivae with multiple erythematous macules and papulovesicular lesions with some collarette scaling over both lower extremities. During initial consultation, the RPR was negative and CD4+ T cell count was 34 cells/ $\mu$ L. The persistence of symptoms prompted consult to an Infectious Disease specialist and subsequent referral to an Ophthal-

mologist. Slitlamp and funduscopy showed hyperemic disc with indistinct borders. Fluorescein Angiography showed leakage of the optic nerve head with diffuse areas of retinal vasculitis in the retinal mid-periphery. Repeat RPR remained positive at the dilution of 1:256 and a positive Fluorescent Treponemal Antibody Absorption Test yield the diagnosis of Secondary Syphilis with Ocular Syphilis. Due to known history of Penicillin allergy, oral desensitization with Penicillin V was initiated first then subsequently administered a two-week course of intravenous penicillin G. The patient tolerated the antibiotic course and was discharged stable and improved.

Having both diagnostic and therapeutic dilemma, this case report prompts the clinicians to have a high index of suspicion and continued familiarity with protean manifestations of syphilis, and acquainted with prozone effect when necessary. Since syphilis is a great masquerader, it requires high index of suspicion and should be included in the differential diagnoses of visual complaints.

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### Candida growth in urine cultures: contemporary analysis of species and current trends in antifungal susceptibility in a general hospital in Kuwait



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**Background:** Urinary tract infections (UTIs) due to *Candida* species are becoming common, especially in hospitalized patients. Although it can be challenging to differentiate colonization from true candiduria, denying treatment to appropriate patient can lead to increased morbidity and mortality. The aim of this study was to find the frequency of *Candida* among uropathogens, their speciation and determining the susceptibilities to various antifungal drugs.

**Methods:** A prospective study was conducted from October 2016 to September 2017 and data from urine samples cultured during this period were collected. Suspicious colonies on Sabouraud dextrose agar and or blood agar were identified and susceptibility to antifungal drugs was determined by VITEK<sup>®</sup> 2 fungal susceptibility card.

**Results:** A total of 49,156 urine samples were cultured on appropriate media. The cultures were positive for uropathogens in 6156 samples. Although *Candida* was isolated in 375 (6.1%) samples, only culturally significant 307 (5.0%) isolates were subjected to identification and susceptibility testing. The isolation rates of *C. albicans*, *C. tropicalis*, *C. glabrata*, *C. parapsilosis* and *C. krusei* were 60.3%, 19.5%, 9.1%, 3.9% and 2.6%, respectively. In addition, other uncommon species, such as *Stephanoascus ciferri* (2.0%), *C. dubliniensis* (1%), *C. lusitaniae* (1%), *C. utilis* (0.3%) and *C. rugosa* (0.3%) were also isolated. All isolates were susceptible to flucytocine except none of *C. krusei* and *C. dubliniensis* strains. Fluconazole also showed good activity (100%) against most of the isolates except *C. glabrata* (96.4%) and *C. parapsilosis* (91.7%). All *Candida* spp. were susceptible to voriconazole, caspofungin, amphotericin B and micafungin. Only 83.3% of *S. ciferri* isolates exhibited susceptibility to fluconazole, voriconazole and amphotericin B.

**Conclusions:** *C. albicans* exceeded the number of non-*albicans* *Candida* among the urinary isolates. All *Candida* spp. were susceptible to most of the antifungal agents tested. Unusual *Candida* spp. may be present in the urine cultures.

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