

## **Streptococcus mitis: An Unusual Causative Agent for Urinary Tract Infection**

Sir,

Urinary tract infection (UTI) is one of the frequent bacterial infection observed in clinical practice and is usually caused by members of the Enterobacteriaceae family, in particular *Escherichia coli* and Gram-positive cocci such as *Enterococcus spp.* and *Staphylococcus spp.*<sup>[1]</sup> But we encountered a case of UTI caused by an unusual pathogen-*Streptococcus mitis*, a member of the viridans group Streptococci (VGS). A 55-year-old diabetic female attended the gynaecology outpatient department of our hospital with recurrent burning micturition, low grade fever, and lower abdominal pain since one month. For this she had been empirically treated with ciprofloxacin but with no improvement. On examination, she had an urethrocele causing difficulty in emptying her bladder leading to cystitis. She was diabetic, human immunodeficiency virus (HIV) sero-negative and her hematological and biochemical parameters were within normal limits except for a neutrophilic leukocytosis. Microscopic examination of her urine samples for two consecutive days revealed plenty of pus cells and traces of albumin while aerobic culture of both the samples showed significant bacterial growth (colony count > 10<sup>5</sup> CFU/ml) on CLED agar. Isolated organisms were Gram-positive cocci mostly in chains, catalase negative, bile esculin negative even after 48 hours, showed no growth on nutrient agar and were nonhemolytic on 5% sheep blood agar. This bacterium was further identified as *S. mitis* by VITEK-2 system with GP-67card. The isolate was susceptible to amoxicillin-clavulanic acid, ceftriaxone, gentamicin, and vancomycin but resistant to ampicillin, azithromycin, ciprofloxacin, and ofloxacin. The sensitivity was cross checked by Hicomb MIC strips before handing out the susceptibility results. The patient was successfully treated with amoxicillin-clavulanic acid for one week along with physiotherapy. Although the VGS is a known commensal organism in the human mucosa of the oral cavity, upper respiratory tract, female genital tract, and gastrointestinal tract; it has been documented to be a frequent cause of endocarditis, meningitis, pneumonia, and bacteremia particularly in patients with immunosuppressive conditions.<sup>[2,3]</sup> There are occasional reports of genito-urinary infection by VGS, but UTI by *S. mitis* is unusual.<sup>[4]</sup> In our case, risk factors for this infection were diabetes and the urethrocele. The patient was asymptomatic after proper antibiotic treatment along with control of blood sugar. Though 16S rRNA gene sequencing is the surest method for identification of

*S. mitis*, VITEK-2 system is also one of the important aid in resource poor setting. Thus, isolation and knowledge of *S. mitis* as a causative agent of UTI will help in avoiding misrecognition of it as a mere contaminant and ensuring appropriate treatment.

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#### REFERENCES

1. Warren JW. Clinical presentations and epidemiology of urinary tract infection. In: Mobley HL, Warren JW, editors. Urinary tract infections-molecular pathogenesis and clinical management. Washington DC: American Society for Microbiology Press; 1996. p. 3-27.
2. Douglas CW, Heath J, Hampton KK, Preston FE. Identity of viridans streptococci isolated from cases of infective endocarditis. J Med Microbiol 1993;39:179-82.
3. Westling K, Ljungman P, Thalme A, Julander I. *Streptococcus viridans* septicaemia: A comparison study in patients admitted to the departments of infectious diseases and haematology in a university hospital. Scand J Infect Dis 2002;34:316-9.
4. Chou YS, Horng CT, Huang HS, Hu SC, Chen JT, Tsai ML. Reactive arthritis following *Streptococcus viridans* urinary tract infection. Ocul Immunol Inflamm 2010;18:52-3.

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