

Case Report Article

Serratia Fonticola microbe presented as a community-acquired urinary tract infection (UTI): a case report

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Abstract

Background: The case we are presenting is about one of the rare pathogens, *Serratia Fonticola* (SF) that may cause urinary tract infection.

Case Presentation: A 58 years-old female presented with dysuria, suprapubic pain, frequency of micturition, and change in urine color. The patient was afebrile on physical examination; however, the urine culture was positive to SF as the sole isolate. The patient received levofloxacin tables (750 mg) once a day for 5 days along with supportive instructions to improve hygiene. On follow-up, she was free of symptoms and the repeated urine culture was negative.

Conclusion: This case can be considered globally the third that diagnosed in the urine culture of the asymptomatic patient.

Keywords: *Serratia Fonticola*, Urinary Tract Infection, Female, Case Report, Community, Saudi Arabia

Background

Among the most prevalent bacterial infections are urinary tract infection (UTIs). During micturition, bacteria that colonize the urethra and the bladder are flushed out. Females have a shorter urethra than males, which makes bacterial infection more likely [1]. Classically, the diagnosis of UTI is made by its symptoms and a positive urinalysis and culture [2]. Different microbial agents cause UTIs, yet most commonly, *Escherichia Coli*. The case we are presenting is about one of the rare pathogens, *Serratia Fonticola* (SF). SF is a member of the large family of Enterobacteriaceae that seldom causes an infection on its own. In “1979, SF was introduced as a new pathogen of *Serratia* species” [3].

Case Report

We proffer a 58-year-old female who presented with dysuria, suprapubic pain, frequency of micturition, change in urine color, and constipation for a week. Initially symptoms were associated with constipation. Of note, she is a polymyalgia rheumatic (PMR) patient on daily prednisolone 30mg and on-demand ibuprofen. The patient had no prior hospitalization. She is a housewife, non-smoker, and a mother of 5 grown children. She was well and fit for her age and condition. Physical examination revealed no fever but mild suprapubic tenderness.

Urine analysis showed 25 WBC/HPF, 15 RBC/HPF, and a trace of urate crystals. Urine culture was positive for SF as the sole isolate. The microbe was sensitive to tigecycline, oral ciprofloxacin, levofloxacin, and trimethoprim-sulfamethoxazole. Intermediate sensitivity was noted for gentamicin (Table 1). Ultrasonic examination of the urinary tract revealed mild diffuse bladder wall thickness measuring 4 mm, suggesting mild cystitis.

Moreover, a 3-cm simple left kidney cyst was found. The lady has been put on levofloxacin 750 mg once a day for five days, along with supportive instructions to improve hygiene and relieve constipation. On follow-up, she was symptomless and growth-free on repeated urine culture.

Table 1 Culture and sensitivity of *Serratia Fonticola* (SF)

No.	sensitivity	Agent
1	Sensitive	Ciprofloxacin
2	Insensitive	Gentamicin
3	Sensitive	Levofloxacin
4	Sensitive	Tigecycline
5	Sensitive	Trimethoprim/Sulfamethoxazole

Discussion

Usually, SF pathogens are present in nature, and their appearance in laboratory tests of human fluids and tissues is considered a rare case. Aljorayid et al. [4] indicated that when SF is discovered with other organisms, often work as a bystander, with no clinical and virulent impact. On the contrary,

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when SF is found alone, which is rare, the likelihood of acting as a human pathogen increases. *SF* was isolated from freshwater and soil [3]. Müller HE [5] was able to isolate the bacteria from wild bird droppings, whereas Garcia et al. [6] found the *SF* in a Crocodile skin lesion. Bollet et al. [7] recorded the first case of SF transmission to humans due to a traffic accident. In the mid-eighties of the twentieth century, the efforts made by Farmer and his colleagues resulted in the isolation of thirteen species of *SF*, eleven found in the wound cultures, and two in the respiratory system [8]. In 2003, Stock and his team succeeded to recover two *SF* species from urine and bloodstream [9]. Gorret et al. [10] isolated the *SF* from the soft-tissue. Hai et al. [11] find out the "first Case of biliary tract infection due to multidrug-resistant *SF*". Aljorayid et al. [4] recovered the *SF* from the urinary tract. The authors presented a case of a 67-year-old male patient who had developed urosepsis due to *SF*. Blood and urine cultures tested positive for *SF* and *Providencia stuartii* during hospitalization. Moreover, Aljorayid et al. [4] reviewed seventeen patients presented with clinical cultures positive for *SF* from 1999 to 2015. The urine culture was positive with *SF* in eleven cases. Three cultures grew *SF* alone. The authors reported five cultures for patients presented with clinical signs and symptoms related to UTIs. Two of the five symptomatic patients with UTIs had *SF* alone.

Conclusion

Along with the two cases that had *SF* alone in an asymptomatic patient's urine cultures, our case is globally considered the third. Our case harmonizes with the case series mentioned earlier that believes that *SF* caused mild manifestations. The risk factors that our patient had are age, gender, and prednisolone administration.

Abbreviation

SF: *Serratia Fonticola*; UTI: Urinary Tract Infection; PMR: polymyalgia rheumatic; WBC: White Blood Cell; RBC: Red Blood Cell

Declaration

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Availability of data and materials

Data will be available by emailing Omarmohammednoor@gmail.com

Authors' contributions

All authors participated equally in fulfilling this paper. All have read and approved the final manuscript.

Ethics approval and consent to participate

We conducted the research following the Declaration of Helsinki. However, the Institutional Review Board at the corresponding author's institution approved the case series.

Consent for publication

Not applicable

Competing interest

The author declares that he has no competing interests.

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