Letter to the Editor

Chryseobacterium indologenes: An emerging uropathogen among hematological malignancy patients

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Dear Editor,

Chryseobacterium indologenes, earlier known as *Flavobacterium indologenes*, is an emerging human pathogen distributed widely in nature.[1] It can cause a wide spectrum of nosocomial infections among immunocompromised patients. Here, we report a case of urinary tract infection (UTI) caused due to *C. indologenes*. A 56-year-old male patient admitted to the medicine department with chief complaints of generalized weakness, fatigue, palpitation, and diminution of vision for 15 days. His hemoglobin was 12.1 gm/dl, total leukocyte count: 10,140/ml, platelets: 9968/mm^3, and blast cell: 46%. Auer rods and pseudo-Pelger–Huet cells were present. Bone marrow examination revealed CD13+, CD33+, CD117+, CD34+, CD34+, CD79+, HLD DR+, and MPO+, suggestive of acute myeloid leukemia. After 4 days of admission, the patient developed continuous fever of 100.1°F without chills and rigor. Blood and urine specimens were sent to microbiological department for bacterial culture and sensitivity. Blood culture was sterile after 5 days of incubation. Urine microscopy revealed 3–5 white blood cells/high-power field with occasional bacilli. Urine specimen on cysteine–lactose–electrolyte-deficient agar showed significant count (>10^5 colony-forming unit/ml) of yellow-colored colonies. On examination, the isolate was Gram-negative bacilli, nonmotile, positive for catalase, oxidase, and indole test. It produced urease, reduced nitrate to nitrite, and utilized citrate and glucose nonfermenter. The organism was identified as *C. indologenes* by conventional biochemical reaction and was further confirmed by MALDI TOF-MS. Antimicrobial susceptibility testing (AST) was performed and interpreted as per the CLSI 2017 for *Pseudomonas aeruginosa*. The organism was resistant to amikacin (30µg), imipenem (30µg), meropenem (30µg), cefoperazone-sulbactam (50µg/50µg), piperacillin-tazobactam (100µg/10µg), ciprofloxacin (30µg), and ceftazidime (30µg). Considering as a urinary isolate, nitrofurantoin (300µg) was also tested in AST and the zone of inhibition was interpreted as per *Enterobacteriacae* and found susceptible to nitrofurantoin only. As clinical significance of single isolation is doubtful, repeat urine sample was processed. The colony morphology, count, identification by MALDI-TOF, and AST result were found similar as earlier. Nitrofurantoin was started 100 mg BD for 14 days and fever was subsided after 4 days of therapy. Urine and blood specimens were collected after 5 days of nitrofurantoin administration and were found sterile. The patient was then discharged after his first cycle of chemotherapy.

C. indologenes is a rare but important pathogen, causing serious infections among immunocompromised hosts.[2-4] It can persist in the water system of hospitals and medical devices. In contrast to published literature where most of the infections with *C. indologenes* were device associated, no such association could be established in the present case. It is relatively resistant to most of the broad-spectrum antibiotics including cephalosporins and carbapenems.[5] Proper management of infection by this relatively resistant organism warrants correct identification and AST. As per available literature, this is the first report where nitrofurantoin was administered and the patient responded to the treatment. Nitrofurantoin is an oral drug, easy to administer, and active against many of the uropathogens.

There are reports of UTI caused by *C. indologenes* in cancer patients with indwelling catheter. This report highlights the association of *C. indologenes* in UTI among noncatheterized patient responded to nitrofurantoin. Since the AST data are not clearly defined yet, further research is needed to look for its action in UTI cases.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

Vishwanath Singh Yadav, Bimal K. Das, Hitender Gautam, Seema Sood, Arti Kapil, Sarita Mohapatra

Department of Microbiology, All India Institute of Medical Sciences, New Delhi, India

Correspondence to: Dr. Sarita Mohapatra, E-mail: saritarath2005@yahoo.co.in

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