



Clinical and Microbiological Profile of *Myroides* Species Isolated from Urinary Tract Infections: A Retrospective Study from North India

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APCCMI2025
BANGKOK

CAS-092

INTRODUCTION

- Myroides* species are gram negative bacilli, prevalent in the environment and cause a variety of illnesses, including urinary tract infections (UTI), sepsis, meningitis, cholecystitis, pneumonia, and soft tissue infections, particularly among immunocompromised people
- These are usually multi-drug resistant.
- This study sought to establish the clinical profile, underlying comorbidities, and antibiotic susceptibility of *Myroides* isolates derived from nosocomial UTI cases

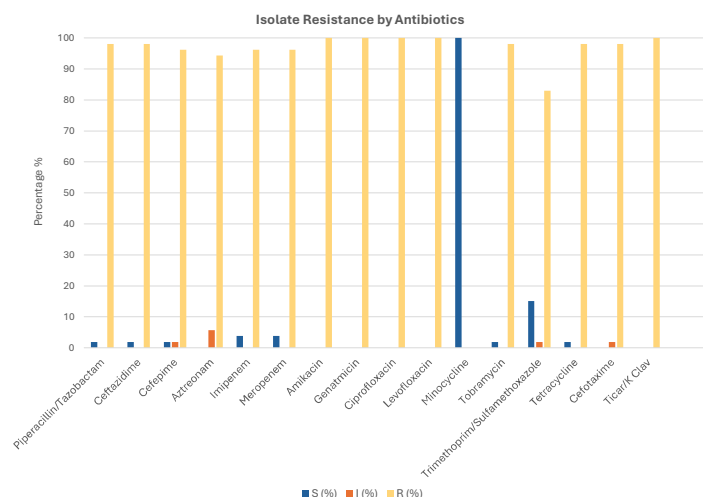
METHODS

- A retrospective analysis was conducted on cases admitted to a tertiary care center that were diagnosed with urinary tract infection caused by *Myroides* species
- Inclusion criteria –
 - A colony count of more than 10⁵ was considered significant
 - Identification of all isolates was performed using the VITEK-MS[®] system (bioMérieux SA, France) and Microscan Walkway Plus
- Exclusion criteria-
 - Colony count less than 10⁵
 - Polymicrobial growth (≥3 organisms were present)
- Case records of these patients were analyzed for demographic data, clinical characteristics, management, and clinical outcomes.

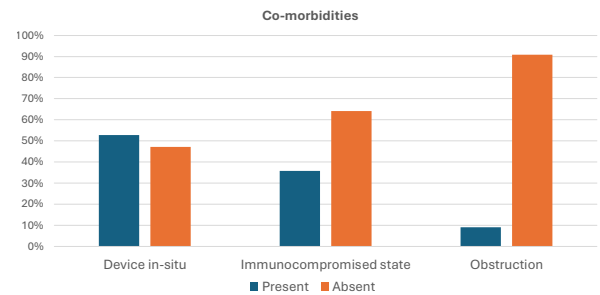
RESULTS

- Between January 2019 and July 2025, 53 positive *Myroides* species cultures were identified from urine culture.
- The maximum number of cases (50.9%) were from the Urology and General medicine
- A total of 53 clinical isolates were tested against 16 antibiotics
- Minocycline** exhibited the highest efficacy, with **100% of 38 tested isolates**
- Amikacin, Gentamicin, Ciprofloxacin, Levofloxacin, Cefotaxime, and Ticarcillin/Clavulanic acid** showed **complete resistance (0% susceptible)** across all isolates
- Trimethoprim/Sulfamethoxazole** showed moderate activity with **15.1% (8/53)** susceptible and **1.9% (1/53)** intermediate isolates
- All β-lactams and aminoglycosides tested, including **Piperacillin/Tazobactam, Ceftazidime, Cefepime, Tobramycin, and Tetracycline**, had susceptibility rates below 4%

Descriptive statistics (selected)	
Parameter	Result
Mean age	44.4 years
Median age	43.5 years
SD (Age)	17.1 years
Sex distribution	Male: 33 (62.3%), Female: 20 (37.7%)
IP/OP	IP: 48 (90.6%), OP: 5 (9.4%)
Outcome	Alive = 33, Death = 13, LAMA = 7.
Device in situ	Absent = 28, Present = 25.
Immunocompromised	Absent = 34, Present = 19.



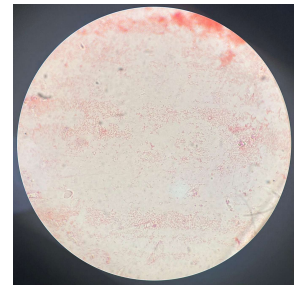
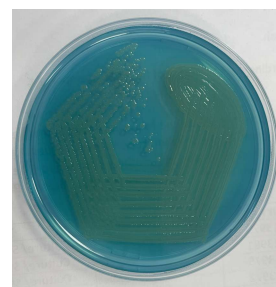
RESULTS



- Patients with co-morbidities exhibited higher rates of device in situ (n=25, 47.16%) and immunocompromised states (n=19, 35.84%), while obstruction was rare in this group (n=3, 5.66%).

DISCUSSION

- Myroides* spp. was first isolated by Stutzer et al. in 1923.
- Initially classified under the genus *Flavobacterium*, family *Bacteriaceae* and tribe *Chromobacteriaceae* (1)
- In our study more than 50% cases were from urology and general medicine ward
- Similar studies conducted in India (1,2) reported 100% sensitivity to minocycline. Consistent with these findings, our isolates also exhibited a high level of antibiotic resistance, with minocycline being the most effective agent, demonstrating 100% sensitivity across all isolates
- Chen et al. reported 100% sensitivity to co-trimoxazole; however, in our study, only 8 out of 53 isolates were sensitive (3)
- Most common co-morbidity in our study was device in-situ (62.3%) followed by immunocompromised state (24.5%)
- Myroides* infections are often linked to Foley catheters due to the organism's ability to form biofilms.
- Male sex, immunocompromised status, and older age are associated with poorer survival in *Myroides* infections (aOR < 1; p < 0.05).
- These factors should be considered as key predictors of adverse outcomes.



CONCLUSION

- Myroides* species are emerging pathogens that can cause urinary tract infections in immunocompromised and catheterised patients
- The data highlights a challenging multidrug resistance in *Myroides* isolates, with Minocycline and Trimethoprim/Sulfamethoxazole remaining possible therapeutic options based on this sensitivity pattern
- Myroides* species are emerging bacterial pathogens that cause urinary tract infections and pose a significant threat to immunocompromised and catheterized patients
- Therefore, accurate identification of *Myroides* infections is essential, as these organisms are frequently overlooked by conventional diagnostic methods

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