

Rare Urinary Tract Infections in Immunosuppressed Patients: Not Just Anti-Infectives

We recently read with great interest a case report "Urinary tract infection in a renal transplant patient by myroides species: A case report from Pakistan" written by Bushra *et al.*¹ The article depicted a 32-year male patient with diabetes undergoing immunosuppressant treatment after a renal transplant, referred to the local hospital due to urinary tract infection (UTI). We recognise the significance of their findings in the medical realm. As avid readers, we aim to provide our insights on this case and offer some suggestions that can aid in the advancement of future research endeavours exploring the outcomes of this investigation.

Firstly, as a case report, the authors provided limited clinical data. The authors did not mention the patient's results for urine and blood routine tests. Some information regarding the patient's infection indicators was missing, such as C-reactive protein (CRP) and procalcitonin. The authors failed to mention the patient's temperature variations and any accompanying symptoms after admission, as well as any signs of urinary tract irritation. It is vital that a more comprehensive description of these clinical manifestations would greatly assist in obtaining a complete understanding of the patient's condition.

Secondly, this patient was diagnosed with diabetes previously. How his daily medication and blood glucose control had been, especially regarding the fluctuations following this infection? The authors did not provide information on the patient's glycemic variability after admission and the values of glycosylated haemoglobin. Hyperglycemia, a common manifestation of diabetes, is believed to impair the immune response, leading to an inability to effectively combat invading pathogens in individuals with diabetes.² Consequently, diabetic individuals are more prone to infections compared to those without diabetes. Diabetic patients occasionally experience compromised immune function, leading to heightened susceptibility to infectious diseases, especially UTIs.³ Therefore, the control and monitoring of glycemic levels in individuals with diabetes are necessary for preventing and treating any kind of infection, and this is no exception for this patient.

Lastly, UTI continues to be the predominant form of infection in kidney transplant recipients. It is important to note that both the transplanted and natural urinary systems are susceptible to UTIs.⁴ The development of UTI in patients who have undergone kidney transplantation can be attributed to a variety of factors, all of which can interact with one another. These factors may include excessive use of immunosuppressive medications, the presence of chronic diseases, the existence of foreign objects within the urinary system, the malfunction of the recipient's

native kidneys, and abnormalities in the lower urinary tract.⁵ As for this patient, he required a significant dose of glucocorticoids and immunosuppressants after kidney transplant, which resulted in a weakened immune function. This is one of the main aetiologies for the occurrence of UTIs. However, the authors did not provide information on the patient's immunologic results and the exact dosage of immunosuppressants, as well as any corresponding adjustment of treatments after UTI.

In conclusion, we acknowledge that the case report conducted by Bushra *et al.* serves as a valuable point of reference for reviewing and uncovering intriguing insights into rare UTIs in a post-renal transplant patient on immunosuppressive therapy.

COMPETING INTEREST:

The authors declared no conflict of interest.

AUTHORS' CONTRIBUTION:

DL: Manuscript writing.

XL: Manuscript design and revision.

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REFERENCES

1. Bushra R, Imtiaz A, Mirza IA, Naqvi SH, Sajjad R. Urinary tract infection in a renal transplant patient by myroides species: A case report from Pakistan. *J Coll Physicians Surg Pak case Rep* 2023; **33(1)**:48-9. doi: 10.29271/jcpspcr.2023.48.
2. Berbudi A, Rahmadika N, Tjahjadi AI, Ruslami R. Type 2 diabetes and its impact on the immune system. *Curr Diabetes Rev* 2020; **16(5)**:442-9. doi: 10.2174/1573399815666191024085838.
3. Kamei J, Yamamoto S. Complicated urinary tract infections with diabetes mellitus. *J Infect Chemother* 2021; **27(8)**: 1131-6. doi: 10.1016/j.jiac.2021.05.012.
4. Moein M, Garn RM, Settineri J, Saidi R. Urinary tract infection 1 year after kidney transplant: Effect on kidney transplant outcomes. *Exp Clin Transplant* 2023; **21(7)**: 556-561. doi: 10.6002/ect.2023.0057.
5. Ness D, Olsburgh J. UTI in kidney transplant. *World J Urol* 2020; **38(1)**:81-8. doi: 10.1007/s00345-019-02742-6.

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AUTHOR'S REPLY:

Thank you for your interest in the case report and for providing your insightful comments and suggestions. The points highlighted by the reader are pertinent. While we acknowledge potential oversight in presenting some clinical details as highlighted by the reader, our primary aim was to underscore the microbiological findings and their clinical implications. Myroides species, as mentioned in the report, are common in the environment and often regarded as contaminants when isolated in bacterial cultures in the laboratory from clinical specimens. Our objective was to shed light on the importance of these bacteria in clinical contexts especially in patients with compromised immunity. Disregarding or misidentifying could have serious implications since these are often multi-drug resistant. With this report, we hoped to raise awareness about this

underestimated pathogen among microbiologists and clinicians.

However, in retrospect, we acknowledge that a more comprehensive inclusion of clinical details would have added more meaning to the report. Constructive feedback is valuable in refining the quality of scientific literature.

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