

Letter to Editor

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Peritonitis due to *Mycobacterium mucogenicum* in an end-stage renal failure patient undergoing peritoneal dialysis

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Mycobacterium (*M.*) *mucogenicum*, a species that belongs to a collective group of non-tuberculous mycobacteria, has shown a rising trend as an opportunistic pathogen, particularly in immunocompromised patients[1,2]. However, its isolation and clinical importance have not been widely discussed, especially in Malaysian healthcare settings. We report a case of *M. mucogenicum* peritonitis in an end-stage renal failure patient undergoing continuous ambulatory peritoneal dialysis (CAPD). The patient presented with nonspecific abdominal pain and cloudy dialysate.

Peritoneal dialysis fluid cultured in BACTEC blood culture bottles (Becton, Dickinson and Company, USA) yielded faster growth of wrinkled grey colonies on blood agar, in contrast to direct culture of peritoneal dialysis fluid on Ogawa media, which produced non-pigmented mucoid colonies (Figure 1). Identification of the *M. mucogenicum* phocaicum group was achieved *via* Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry (MALDI-TOF MS), while Line Probe Assay confirmed a more specific identification of *M. mucogenicum*. The organism was susceptible to trimethoprim-sulfamethoxazole, cefoxitin, amikacin, clarithromycin, and imipenem.

Empirical intraperitoneal antibiotics were discontinued, and intravenous amikacin and imipenem were initiated after infectious disease consultation. The Tenckhoff catheter was removed due to concern for biofilm-associated persistence, and the patient was transitioned to hemodialysis. He completed four weeks of therapy and was discharged in good condition.

M. mucogenicum is commonly dismissed as a contaminant; however, isolation from clinical samples requires judicious interpretation to determine its potential pathogenic relevance. Its role as a pathogen is increasingly recognized in immunocompromised hosts, especially in catheter-related infections[1,2]. Accurate identification of *M. mucogenicum* remains challenging. Although MALDI-TOF MS provides rapid results, it lacks the capacity to discriminate closely related species, making molecular confirmation by Line Probe Assay or sequencing an important adjunct[3–5].

This case underscores the importance of heightened vigilance for atypical nontuberculous mycobacteria in peritoneal dialysis-associated peritonitis, particularly when cultures yield negative results or when empirical antibiotic therapy fails. Early and effective collaboration between laboratory staff and clinicians is important in expediting diagnostic investigations, guiding antibiotic susceptibility testing, and ensuring the prompt initiation of targeted therapy[6].

Conflict of interest statement

The author(s) declared no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

Informed consent to publish

Written informed consent was obtained from the patient for the anonymised information to be published in this article.

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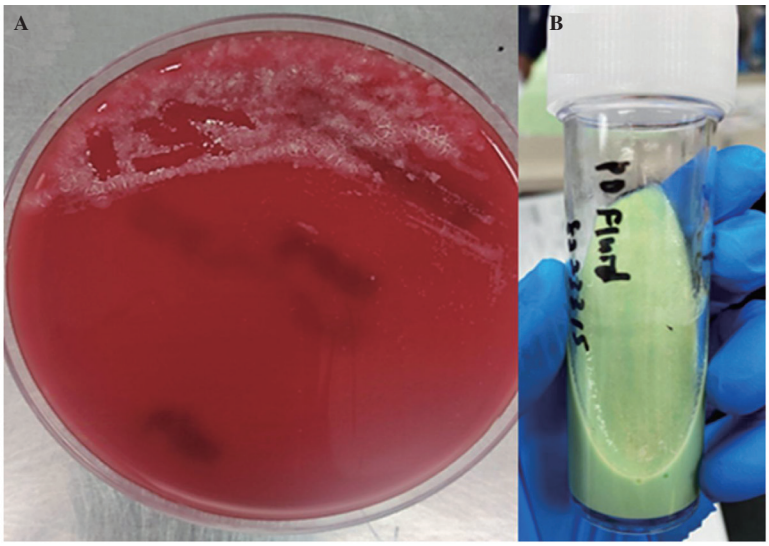

Figure 1. (A) Irregular wrinkled colonies of *Mycobacterium mucogenicum* on blood agar; (B) Smooth, slightly mucoid colonies of *Mycobacterium mucogenicum* on Ogawa medium.

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Authors' contributions

NN: Conceptualization, wrote the first draft of the manuscript. NAA, FRAR, NDMS: Writing -review & editing. NIM: Supervision. All authors reviewed and approved the final version of the manuscript.

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