

An uncommon pathogen: *Dyella* spp. in blood cultures from hemodialysis patient

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Introduction *Dyella* spp. are Gram-negative bacteria commonly found in the environmental source worldwide and are rarely associated with human infections. Their clinical significance remains poorly understood. Identification using conventional laboratory methods, such as biochemical testing is challenging. Although, MALDI-TOF MS has improved diagnostics capabilities. Its accuracy is limited to available databases. In Thailand, limited databases may cause misidentification. This report presents a case of *Dyella* spp. bacteremia in a hemodialysis patient.

Case Presentation A 35-year-old Thai woman with end-stage renal disease (ESRD) on chronic hemodialysis presented with acute fever and chills during dialysis. Physical examination showed temperature 38°C, respiratory rate 22/min, heart rate 80/min, and blood pressure 130/60 mmHg. All blood cultures from both central and peripheral lines show Gram-negative rods. Identification methods including MALDI-TOF MS and automated biochemical tests failed to achieve reliable results, with some suggesting unrelated organisms. Further confirmed used 16S rRNA gene sequencing was performed and confirmed *Dyella* spp. The patient was treated empirically with piperacillin-tazobactam and recovered without complications. No other source of infection or contamination was identified.

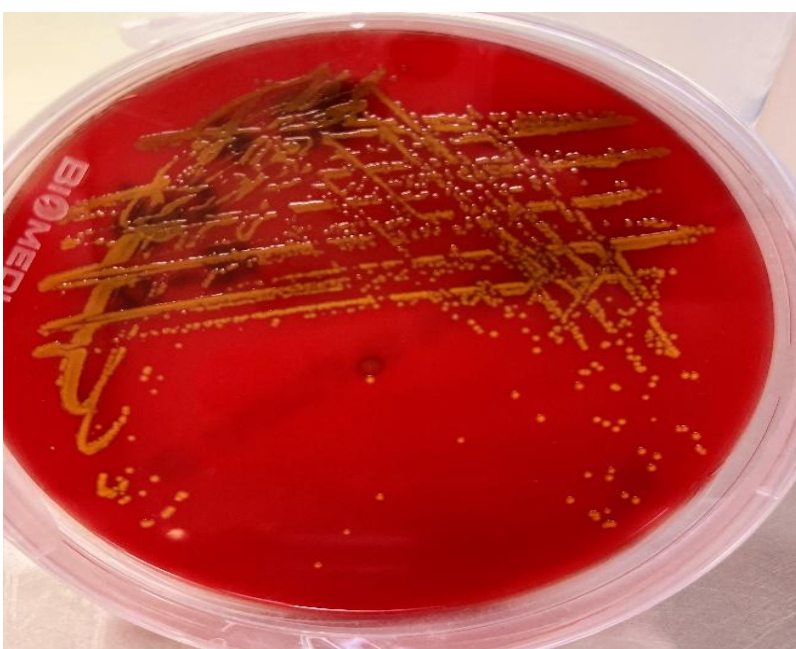


Figure 1 The morphology of bacteria on blood agar plate

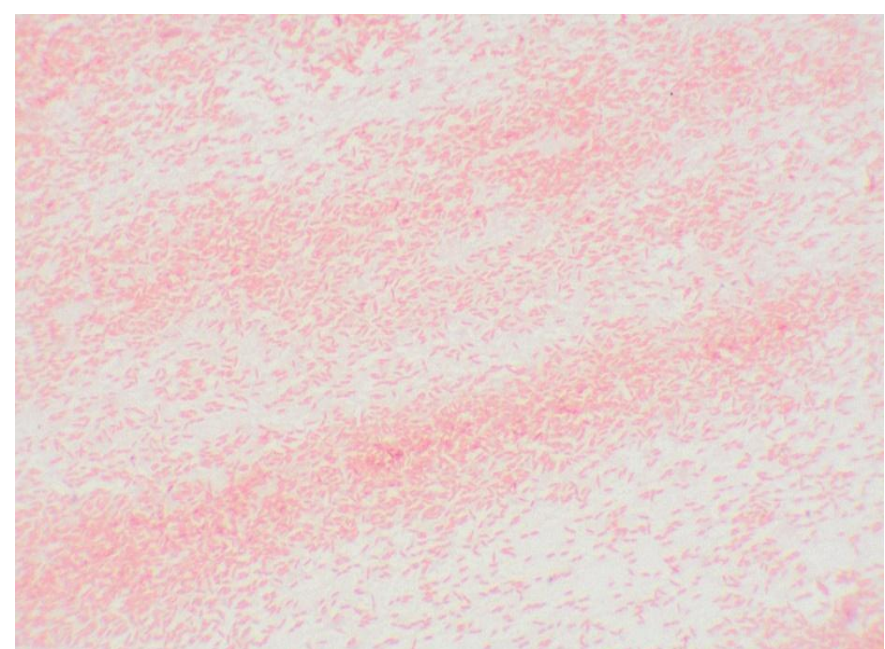


Figure 2 The Gram stain morphology of bacteria from blood culture

Conclusion This case demonstrates that *Dyella* spp. an uncommon bloodstream infection. Hemodialysis patients are at high risk of infection. When routine conventional identification methods failed, 16S rRNA gene sequencing proved essential for accurate diagnosis. The patient responded good to empirical treatment with piperacillin-tazobactam, supporting its potential effectiveness against such rare pathogens. Early recognition and appropriate intervention are essential to improving outcomes in high-risk clinical settings.

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