Sociedade Brasileira de Infectologia

The Brazilian Journal of
INFECTIOUS DISEASES

www.elsevier.com/locate/bjid

INFECTIONS IN TRANSPLANTS AND IMMUNOCOMPROMISED PATIENTS

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EVALUATION OF OUTCOMES IN KIDNEY TRANSPLANT RECIPIENTS WITH URINARY TRACT INFECTION CAUSED BY GRAM-NEGATIVE BACILLI: APPLICATION OF THE DOOR MODEL IN A 10-YEAR COHORT

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Introduction/Objectives: Urinary tract infections (UTI) caused by carbapenem-resistant Gram-negative bacilli (CRGN) represent a significant threat to kidney transplant (KT) recipients, potentially resulting in complications and graft loss. The Desirability of Outcome Ranking (DOOR) strategy allows a global, patient-centered assessment of outcomes. This study aimed to validate a DOOR model adapted specifically for KT recipients by comparing clinical outcomes of UTI caused by carbapenem-resistant versus carbapenem-susceptible Gram-negative (CSGN) bacteria.

Methods: Retrospective cohort study conducted between 2013 and 2023 at a tertiary hospital in Brazil. Patients ≥18 years, with previous KT and UTI due to Gram-negative bacilli, were included. Patients with CRGN infections were matched 1:1 with CSGN controls by year of infection. The primary outcome was a 14-day DOOR. DOOR categories were defined to reflect outcome severity, including occurrence of adverse events, lack of clinical response, infectious complications, transplant-related complications (e.g., rejection, CMV infection, and graft dysfunction), and death. Adjusted analyses were performed using propensity score weighting.

Results: A total of 194 patients were included (97 CRGN and 97 CSGN). The probability of a more favorable 14-day DOOR outcome was 41.3% (95% CI: 34.2%–48.7%; p = 0.02) for CRGN in the crude analysis, and 43.4% (95% CI: 36.2%–50.9%; p = 0.08) after adjustment. Transplant-related complications occurred in 29.9% of CRGN versus 15.5% of CSGN patients. In a subgroup analysis excluding patients on baseline dialysis, the results were maintained. Patients who developed UTI after the first post-transplant year had significantly better outcomes.

Conclusion: UTI caused by CRGN in KT recipients were associated with worse 14-day clinical outcomes in the unadjusted analysis. The higher frequency of events such as graft dysfunction contributed to these poorer outcomes. The adapted DOOR model proved to be a promising tool for global assessment of outcomes in KT recipients with UTI and may be refined and applied in different epidemiological settings.

Keywords: DOOR, Kidney Transplant, Urinary Tract Infection, Carbapenem Resistance, Gram-Negative Bacilli.

https://doi.org/10.1016/j.bjid.2026.105095

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BACILLUS CEREUS BACTEREMIA IN A LIVER TRANSPLANT RECIPIENT – CASE REPORT

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Introduction: Bacillus cereus is a Gram-positive, facultative anaerobic, spore- and toxin-forming bacterium that causes acute, self-limited food-borne gastroenteritis. However, in immunocompromised patients it may behave as a

virulent pathogen, causing bacteremia, pneumonia and, more rarely, necrotizing fasciitis, meningitis, endocarditis, endophthalmitis, and peritonitis.

Case report: A 59-year-old male patient with hypertension, liver transplant in 2017 due to hemangioendothelioma, evolved with cirrhosis of the graft and required retransplantation (MELD-Na 37). On mycophenolate mofetil and prednisone, he was admitted due to decompensated cirrhosis with encephalopathy and jaundice, progressing with severe liver dysfunction, symptomatic acute hyponatremia and hyperkalemia. On the 11th day of hospitalization, he developed nausea, anorexia, diarrhea, and low back pain. Subsequently, he presented with intense pain, warmth, edema and erythema in the right upper limb, along with a large hemorrhagic blister on its medial surface. There was no history of recent local trauma. Aspirative puncture of the blister, blood cultures and paracentesis were performed, with samples sent for culture for common germs and fungi. Rapidly and progressively, he evolved with hemodynamic instability refractory to fluid resuscitation and requiring vasopressors, metabolic acidosis, worsening inflammatory parameters and renal function. Invasive ventilatory support was required due to decreased level of consciousness and respiratory failure. Empirical meropenem and vancomycin were started, with suspension of immunosuppressants. Blood cultures, ascitic fluid and blister cultures showed Gram-positive rods, isolating Bacillus cereus sensitive to vancomycin. The patient died 48 hours after starting treatment.

Conclusion: B. cereus is considered a saprophytic microorganism of the gastrointestinal tract of healthy individuals and traditionally regarded as of low virulence. Invasive disease is associated with immunocompromised patients, and spontaneous bacterial peritonitis and necrotizing fasciitis are rare manifestations. Patients with liver cirrhosis are particularly susceptible to this agent, which should be included among possible etiologic agents when Gram-positive bacilli are identified in clinical specimens.

Keywords: Bacillus cereus, Bacteremia, Liver transplant, Liver cirrhosis.

https://doi.org/10.1016/j.bjid.2026.105096

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CHROMOBLASTOMYCOSIS IN A HEART TRANSPLANT RECIPIENT: CASE REPORT

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Introduction: Chromoblastomycosis (CBM) is a chronic subcutaneous fungal infection that is still poorly described in transplant patients. We report an uncommon case of CBM in a heart transplant recipient.

Case description: A 60-year-old male patient from Minas Gerais, Brazil, had a 3-month history of a skin lesion on the right forearm. He denied any history of local trauma or associated systemic signs and symptoms. He had undergone heart transplantation 3 years earlier and was on triple immunosuppressive therapy with tacrolimus, mycophenolate and prednisone. Physical examination revealed a brownish plaque about 3 cm in diameter, with a smooth surface, black dots, well-defined borders and slight erythema on the right forearm. Complete excision of the lesion was performed and the specimen was sent for histopathology, which showed a dense lympho-histioplasmacytic infiltrate, interspersed with neutrophils and multinucleated giant cells engulfing round, brownish structures, suggestive of CBM. After diagnosis, treatment with itraconazole 400 mg/day was started with good tolerability. After three months of treatment, due to other transplant-related complications, the patient required nasoenteral tube feeding. Considering the risk of tube obstruction by itraconazole, oral terbinafine 1 g/day was chosen and maintained until the end of treatment, totaling 18 months. During treatment and after antifungal discontinuation, there were no signs of recurrence and the patient showed complete clinical improvement.

Comments: This report describes a rare case of CBM in a heart transplant recipient, with favorable clinical evolution after prolonged antifungal therapy combined with complete excision of the lesion. To date, this is the second reported case of CBM in a heart transplant recipient. This case highlights the need for high clinical suspicion and histopathological confirmation in the presence of suggestive skin lesions. Unfortunately, species identification was not possible, as the sample was not sent for fungal culture. Including CBM in the differential diagnosis of dermatoses in immunocompromised patients is essential to ensure timely treatment, avoid complications, and expand clinical knowledge.

Keywords: Chromoblastomycosis, Heart Transplant, Immunosuppression, Fungal Infection.

https://doi.org/10.1016/j.bjid.2026.105097

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INITIAL DIAGNOSIS OF IMMUNOSUPPRESSION DUE TO VERTICALLY ACQUIRED HIV IN A YOUNG CHILD: DISSEMINATED CRYPTOCOCCOSIS MIMICKING TUBERCULOSIS

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Cryptococcosis is an endemic fungal disease prevalent in the tropics and is responsible for most neuroinfections in adults immunosuppressed by the Human Immunodeficiency Virus