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CLINICAL AND MICROBIOLOGICAL FACTORS ASSOCIATED WITH EARLY CARBAPENEM RESISTANCE IN URINE CULTURES OF KIDNEY TRANSPLANT RECIPIENTS

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Introduction/Objectives: Antimicrobial resistance in kidney transplant recipients is a growing challenge, especially in the first months after the procedure, when exposure to antibiotics and intense immunosuppression are greatest. This study investigated clinical and microbiological factors associated with early carbapenem resistance.

Methods: Retrospective cohort study including urine cultures with growth of Gram-negative bacilli in the first 60 days after kidney transplantation, between 2013 and 2023. Resistance to meropenem and its relationship with clinical variables were evaluated. Susceptibility to meropenem was assessed by disk diffusion and interpreted according to BrCAST. Data were stratified into two periods, before and after 2019, to assess the possible impact of the COVID-19 pandemic on bacterial resistance.

Results: A total of 1,043 monomicrobial urine cultures were included. The most frequent bacteria were Klebsiella sp. (42.6%), Escherichia coli (28.1%) and Enterobacter sp. (10.7%). Median age was 50 years (38–55), and 53.6% of patients were male. The predominant collection method was midstream urine (97.2%). About 32.8% of urine cultures were performed between 2019 and 2023. The overall meropenem resistance rate was 21%. Male patients (30.2% vs. 11.6%; $p < 0.01$) and retransplant recipients (51.7% vs. 20.1%; $p < 0.001$) had higher resistance rates. There were also differences in time to bacteriuria (29 days vs. 24 days; $p = 0.003$) and in patient age (54 vs. 50 years; $p = 0.03$) between resistant and susceptible groups, respectively. Resistance increased significantly after 2019 (31.9% vs. 15.7%; $p < 0.01$).

Conclusion: Early carbapenem resistance in kidney transplant recipients was associated with male sex, retransplantation, older age and the post-2019 period, suggesting a possible impact of the pandemic. Monitoring early infections and rational antimicrobial use are essential to mitigate the emergence of resistance in this vulnerable group.

Keywords: Kidney Transplant, Bacteriuria, Carbapenem Resistance, Meropenem, Hospital Epidemiology.

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SEVERE MPOX IN A KIDNEY TRANSPLANT RECIPIENT: DIAGNOSIS AND THERAPEUTIC APPROACH – A CASE REPORT

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Brazil was one of the countries most affected by the multinational mpox outbreak, with a disproportionate burden among men who have sex with men and people with HIV (PHIV). PHIV and individuals with advanced immunosuppression may develop severe and prolonged forms of the disease, which can be further complicated by the use of immunosuppressants after organ transplantation. We report the case of a PHIV and kidney transplant recipient diagnosed with mpox in Rio de Janeiro. This is a 53-year-old cisgender man diagnosed with HIV in 2011, with sustained viral suppression since then, who underwent kidney transplantation in 2021 due to chronic kidney disease of unknown cause. In February 2025, he sought medical care with an 8-day history of disseminated skin lesions, without other symptoms. Examination showed 87 polymorphic lesions, bilateral inguinal lymphadenopathy, mucosal lesions in the oropharynx and penis, foreskin edema and balanoposthitis. He was taking 3TC/DTG, tacrolimus 2 mg/day, mycophenolate sodium 1440 mg/day and prednisone 5 mg/day with good adherence. Initial assessment showed undetectable HIV viral load and CD4+ count of 531 cells/mm^3. Monkeypox virus RT-PCR was positive in skin lesion swabs [Ct first sample 15.57 and Ct second sample 19.27], oropharyngeal swab [Ct 29.24] and rectal swab [Ct 30.7]. Due to immunosuppression, tecovirimat (600 mg orally every 12 hours for 14 days) was started immediately, along with antibiotics for balanoposthitis. Despite the expected drug interaction between tecovirimat and tacrolimus, the immunosuppressant dose was maintained with serum level monitoring. During the course, there was worsening of genital lesions and renal function, prompting a 6-day hospitalization for pain control, hydration and wound care. After discharge, the patient showed partial improvement, with a persistent penile ulcer that healed after 79 days. Renal function fully recovered, with no need to adjust the immunosuppressant dose. This case shows that a severe and prolonged presentation of mpox may occur even in PHIV with well-controlled immunovirological status when there is concomitant drug-

induced immunosuppression due to transplantation. Tecovirimat remains the most widely used antiviral in severe cases, although efficacy data are limited, and it may be considered for immunosuppressed individuals not related to AIDS, as long as that potential interactions, particularly with calcineurin inhibitors, are carefully monitored.

Keywords: Mpox, Kidney Transplant, Immunosuppressants, HIV.

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AGE AND SEX AS DETERMINANTS OF HEPATITIS B SURFACE ANTIBODY (ANTI-HBS) TITERS INDUCED BY VACCINATION IN PATIENTS WITH CANCER

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Introduction/Objectives: Hepatitis B vaccination is recommended for patients who will undergo or are undergoing cancer treatment, aiming to prevent infection by the hepatitis B virus (HBV) and reduce the risk of viral reactivation. Hepatitis B surface antibodies (anti-HBs) alone are the only detectable serologic marker in individuals who acquired immunity through vaccination. Higher anti-HBs titers are associated with greater protection against HBV infection. The aim of this study was to evaluate anti-HBs titers induced by vaccination in patients with cancer.

Methods: This retrospective study included data from patients aged ≥ 18 years diagnosed with cancer between January 2011 and December 2023. Immunity induced by hepatitis B vaccination was defined as reactive anti-HBs with nonreactive anti-HBc. Anti-HBs titers were classified as strongly reactive (≥ 100 IU/L) or weakly reactive (10–99 IU/L). Bivariate and multivariate analyses were conducted to assess categorical variables associated with the presence of strongly protective anti-HBs titers (outcome).

Results: A total of 5,267 cancer patients with reactive anti-HBs (immunity induced by hepatitis B vaccination) were included. Among them, 2,794 (53.0%) had strongly reactive titers and 2,473 (47.0%) had weakly reactive titers. In multivariate analysis, a higher proportion of elevated titers was observed in the 18–39-year age group (57.7%) compared with those ≥ 60 years (44.2%) (OR = 1.64; 95% CI: 1.39–1.94; $p < 0.001$), and also in the 40–59-year group (53.1%) compared with those ≥ 60 years (OR = 1.42; 95% CI: 1.20–1.67; $p < 0.001$). Female patients had a higher proportion of elevated titers (55.8%) compared with males (46.2%) (OR = 1.39; 95% CI: 1.20–1.60; $p < 0.001$). No statistically significant differences were observed regarding ethnicity/skin color ($p = 0.359$) or primary cancer site (solid tumors vs. hematologic neoplasms) ($p = 0.822$).

Conclusion: In a population of cancer patients with immunity induced by hepatitis B vaccination, more than half had anti-HBs titers considered strongly protective. Younger individuals and females had a higher proportion of strongly protective titers, suggesting that age and hormonal factors influence the immune response to vaccination.

Keywords: Hepatitis B vaccine, Anti-HBs, Cancer.

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ELDERLY WOMAN WITH REVERSIBLE DEMENTIA: A CASE OF NEUROCRYPTOCOCCOSIS

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Neurocryptococcosis may present atypically, entering the differential diagnosis of rapidly progressive dementias. We report the case of a 74-year-old female patient with a prior diagnosis of rheumatoid arthritis on chronic methotrexate, with past use of sulfasalazine, hydroxychloroquine, and, four months earlier, leflunomide—suspended one month prior due to hepatotoxicity. Treatment adjustments were underway with recent initiation of golimumab. Approximately four months before hospitalization, she developed apathy, asthenia, and psychomotor slowing. In the weeks preceding admission, she showed marked cognitive decline, becoming minimally interactive, disoriented in time and space, with significant forgetfulness (e.g., names of family members), postural imbalance and requiring assistance to walk, unable to stand unsupported. She also experienced a 7-kg weight loss and sphincter incontinence. Brain MRI revealed disproportionate hippocampal atrophy and microangiopathy. Given the subacute cognitive decline, differential diagnoses included neuroinfections, autoimmune encephalitis, metabolic disorders, and nutritional deficiencies. Lumbar puncture showed inflammatory cerebrospinal fluid with 25 leukocytes/mm^3 (lymphomononuclear predominance), protein 72.8 mg/dL and glucose 36 mg/dL (capillary glucose 111 mg/dL), with initially negative cultures. A repeat lumbar puncture showed worsening inflammatory parameters, and immunochromatography was positive for cryptococcal antigen,