E-Poster

EP-728

Co-Colonization by Multidrug-Resistant Pathogens in the Intensive Neurorehabilitation Unit, A Case Report

Topic: Neuroscience

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BACKGROUND

The increasing incidence of infections associated with multidrug-resistant organisms (MDROs) represents one of the most pressing global public health challenges in the 21st century, with significant burden in rehabilitation settings as well. Neurorehabilitation Intensive Care Units are environments particularly prone to the development of MDRO colonization and infection. In Intensive Neurorehabilitation Units patients present multiple risk factors, including prolonged hospitalization, invasive mechanical ventilation, multiple medical devices, antibiotic therapy and comorbidities. We present the case of a patient with acquired brain injury in an endemic setting for MDROs with unusual co-colonization by several different MDROs.

CASE DESCRIPTION

A 75-year-old female with severe acquired brain injury was admitted to the rehabilitation unit after two months in the intensive care unit (ICU). She remained hospitalized for 22 months, requiring tracheostomy, percutaneous endoscopic gastrostomy (PEG), and multiple readmissions in an acute care hospital due to infectious complications. During the hospitalization serial microbiological screenings were performed using real-time PCR on multi-site skin, pharyngeal, and rectal swabs and culture on selective media. The patient showed co-colonization with Pseudomonas aeruginosa (FIM and VIM) metallo-beta-lactamase producers, *Acinetobacter baumannii* (OXA-23), *Klebsiella pneumoniae* (KPC and OXA-48), Proteus mirabilis (VEB), and Enterococcus faecium (VanA). Despite this extensive MDRO colonization, she developed only four episodes of bacteremia caused by Serratia marcescens, *Klebsiella pneumoniae* (KPC), *Acinetobacter baumannii* (OXA-23), and *Corynebacterium striatum*. The patient eventually died from heart failure with no evidence of systemic infection.

DISCUSSION

This case highlights that co-colonization by several MDROs can occur in endemic settings, emphasizing the need for targeted infection prevention strategies and careful antibiotic use. The patient remained an MDRO reservoir, raising concerns about the transmission dynamics in the Rehabilitation Department.

CONCLUSION

The management of MDRO colonization should be a priority to prevent the transmission of resistant pathogens. It is well-documented in the literature that infections negatively affect rehabilitation outcomes and increase the risk of mortality. Enhanced surveillance strategies are essential to limit the spread of MDROs in rehabilitation.

Statement of Disclosures

None

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Doi: 10.5606/archisprm.2026.EP-728