Manuscript ID : 00000-70076

Source ID : 00000065

Romanian Journal of Laboratory Medicine (Revista Romana de Medicina de Laborator)

Volume 29, Issue 1, October 2021, Pages 53-64, Page Count - 12

Difficult to Treat Proteeae strains in high risk Romanian hospital departments

Corina Musuroi [(1)] Monica Licker [(2)*] Maria Rus [(3)*] Edward Seclaman [(4)] Delia Muntean [(5)] Silvana Vulpie [(6)] Luminita Baditoiu [(7)]

[(1)] Bacteriology Laboratory, Pius Brinzeu Emergency Clinical County Hospital, Timisoara, Romania.
[(2)] Bacteriology Laboratory, Pius Brinzeu Emergency Clinical County Hospital, Timisoara, Romania.
[(3)] Department of Microbiology, Victor Babes University of Medicine and Pharmacy, Timisoara, Romania.
[(4)] Department of Biochemistry, Victor Babes University of Medicine and Pharmacy, Timisoara, Romania.
[(5)] Bacteriology Laboratory, Pius Brinzeu Emergency Clinical County Hospital, Timisoara, Romania.
[(6)] Bacteriology Laboratory, Pius Brinzeu Emergency Clinical County Hospital, Timisoara, Romania.
[(7)] Multidisciplinary research center on antimicrobial resistance, Victor Babes University of Medicine and Pharmacy, Timisoara, Romania.

Abstract

Introduction: *Resistance to first-line antibiotics of the Proteeae strains within the difficult-to-treat (DTR) phenotype is a cause of limitation of therapeutic options. The study aimed to characterize these strains, to identify the factors that influence their acquisition and the predictive factors for the patient's evolution.*

Material and methods: *Between July 2017 and January 2019, 400 of Proteeae strains were isolated from samples of patients admitted to intensive care units (ICUs) and surgical wards of a university hospital in Romania. The identification and testing of antibiotic sensitivity was performed using the Vitek 2 Compact system. The DTR phenotype was defined as the resistance (or intermediate resistance) to all categories of β-lactams, carbapenems and fluoroquinolones.*

Results: *Out of 400 Proteeae strains, 21% were of the DTR type, most of them from the species Providencia stuartii and Proteus mirabilis, identified predominantly on the ICUs. The excess fatality in the DTR subsample compared to the non-DTR subsample was 16.37%. The multivariate analysis identified as independent risk factors: the number of antibiotics administered, the number of days of urinary catheterization, the presence of tracheostomy, nasogastric nutrition, respectively belonging to the species P. stuartii. The probabilities of survival were reduced by the presence of the central venous catheter (CVC), tracheostomy, by the increase of the number of hospitalization days respectively of the number of antibiotics administered.*

Conclusion: *The DTR phenotype in the case of Proteeae strains has been associated especially with the species P. stuartii, with invasive exogenous factors and with an increased fatality.*

Author Keywords

fatality, Providencia stuartii, antibiotical resistance

ISSN Print: 1841-6624
ISSN Online: 2284-5623
Source Type: Journals
Document Type: Journal Article
Publication Language: English
DOI: doi.org/10.2478/rrlm-2021-0003
Abbreviated Journal Title:
Access Type: Open Access
Publisher Name: Romanian Association of Laboratory Medicine
Resource Licence: CC BY-NC
Major Subject: Health Sciences
Subject Area classification: Medicine
Subject area: Infectious Diseases
Source: SCOPEDATABASE

Scope Database Link: https://sdbindex.com/documents/00000065/00000-70076.pdf
Article Link: http://www.rrml.ro/articole/2021/2021_1_5.pdf

Reference