

# CEFIDEROCOL: UTILISATION PROFILE IN THE TREATMENT OF MULTIDRUG-RESISTANT BACTERIA, A RETROSPECTIVE OVERVIEW

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## BACKGROUND AND IMPORTANCE

Gram-negative bacterial multidrug-resistance has reached alarming levels worldwide. Cefiderocol is a novel siderophore-cephalosporin conjugate, with activity against carbapenem-resistant and multidrug-resistant gram-negative bacilli.

## AIM AND OBJECTIVES

To describe the utilization profile of cefiderocol in the treatment of multidrug-resistant gram-negative infections.

## MATERIALS AND METHODS

- Retrospective study including all patients treated with cefiderocol during March 2021-July 2023.
- Patient demographics (age, sex, hospital stay, intensive care unit (ICU)) stay, and clinical and infectious variables (infection/colonization site, isolated gram-negative bacteria, and mechanisms of resistance) were collected.
- Statistical analysis: values were expressed as medians (interquartile range) and patients (percentages).

## RESULTS

### SOCIO-DEMOGRAPHIC

- Patients included in the study: 53.
- Male: 34/53 (64.2%).
- Median age: 65.6 (56.6-72.3) years.
- Median hospital stay: 57.3 (31.5-82.2) days.
- Patients requiring admission to the ICU: 31/53 (58.5%).
- Median ICU stay: 40.0 (25.0-76.5) days.

### INFECTIONS DATA

- 10/53 (18.9%) colonisations vs. 43/53 (81.1%) active infections.
- Focus of infection: Figure 1.
- 73 isolates of multidrug-resistant gram-negative bacteria were obtained.
- Microorganisms with more than one isolation are shown in Table 1.

### TREATMENT PATTERNS

- In 5/43 (11.6%) patients treatment was empirical.
- Median duration of treatment: 9.0 (6.0-15.0) days.
- Just 4/57 isolates with resistance to cefiderocol were recorded.

Figure 1. Focus of infection

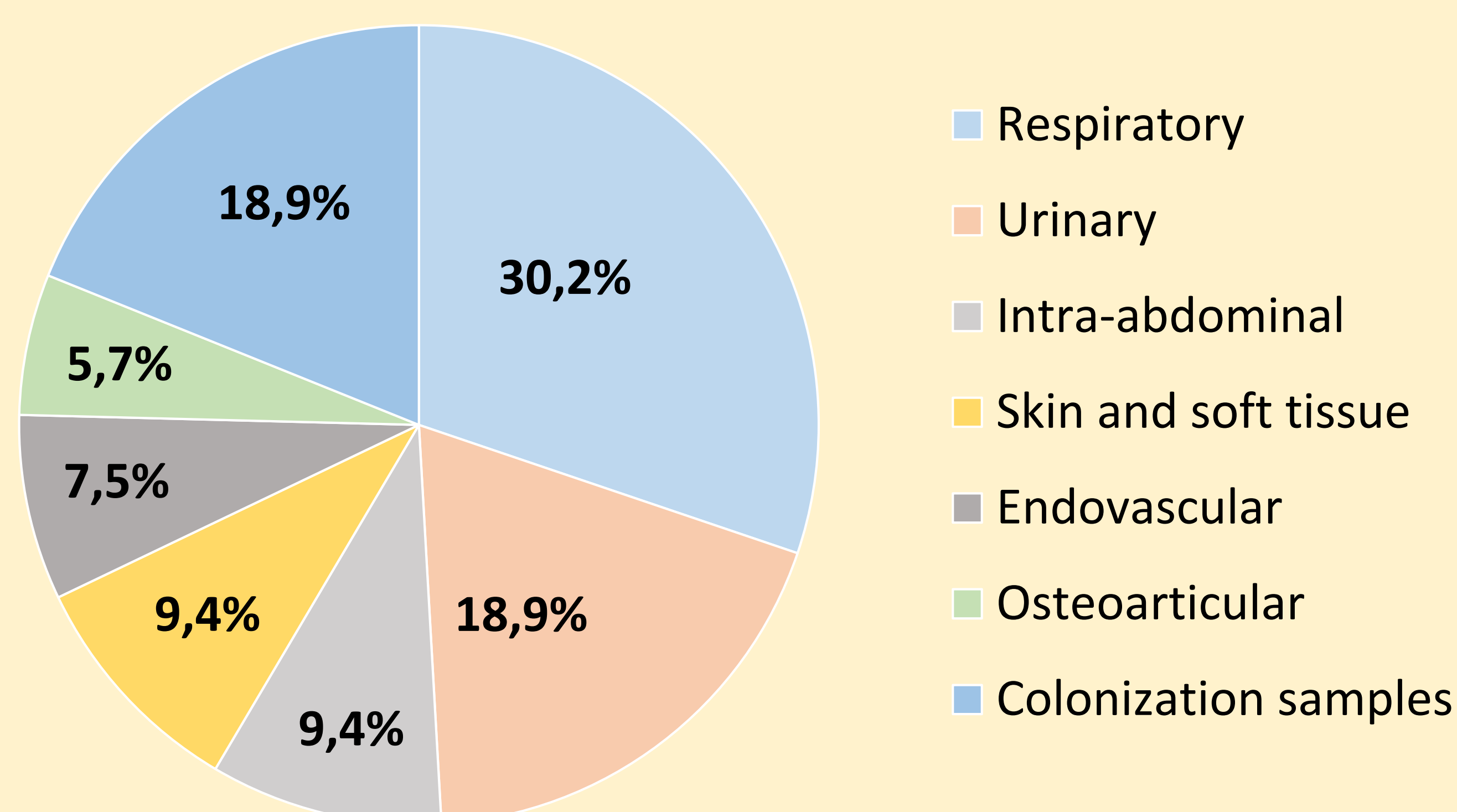


Table 1. Microorganisms with more than one isolation [n(%)]

IMP carbapenemase-producing <i>Pseudomonas aeruginosa</i>	18/73 (24.7)
VIM carbapenemase-producing <i>Pseudomonas putida</i>	7/73 (9.6)
Multidrug-resistant <i>Stenotrophomonas maltophilia</i>	6/73 (8.2)
Carbapenem-resistant <i>Acinetobacter baumannii</i>	5/73 (6.8)
VIM carbapenemase-producing <i>Pseudomonas aeruginosa</i>	4/73 (5.5)
IMP carbapenemase-producing <i>Klebsiella oxytoca</i>	3/73 (4.1)
VIM carbapenemase-producing <i>Klebsiella oxytoca</i>	3/73 (4.1)
VIM carbapenemase-producing <i>Serratia marcescens</i>	3/73 (4.1)
multidrug-resistant <i>Proteus mirabilis</i>	2/73 (2.7)
multidrug-resistant <i>Pseudomonas aeruginosa</i>	2/73 (2.7)

## CONCLUSION AND RELEVANCE

- Cefiderocol was mainly used as a targeted treatment of respiratory and urinary tract infections in a population with long hospital stays and a high rate of ICU admission.
- Most of the isolated bacteria presented carbapenemases, especially VIM and IMP, with a low resistance ratio to cefiderocol.
- Therefore, cefiderocol was well utilized, being restricted to patients with severe infections caused by pathogens with carbapenemases.



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