CEFI-BAC STUDY: A MULTICENTRE OBSERVATIONAL STUDY ON CEFIDEROCOL FOR THE TREATMENT OF MULTI-DRUG RESISTANT GRAM-NEGATIVE BACTERIA

Ongoing Research Update

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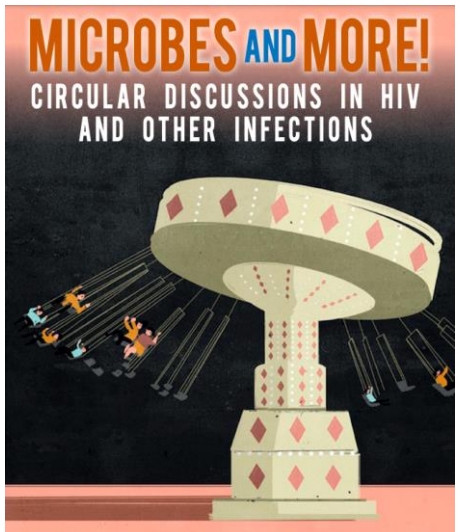

Sistema Socio Sanitario

Regione Lombardia

ASST Santi Paolo e Carlo

UNIVERSITÀ DEGLI STUDI DI MILANO

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Rationale

- Cefiderocol is a unique siderophore-conjugated cephalosporin
- Promise as a treatment option for management of multidrug-resistant gram-negative bacterial (MDR GNB) infections
- Conflicting results from current studies, particularly for *Acinetobacter baumannii* infections, and limited real-life data

Current Evidence from Clinical Trials

- **APEKS-cUTI** (2018): non-inferiority of cefiderocol over imipenem-cilastatin for treatment of MDR GNB cUTI
- **APEKS-NP** (2020): non-inferiority of cefiderocol over extended-infusion meropenem in terms of 14-day mortality in patients with GNB nosocomial pneumonia
- **CREDIBLE-CR** (2020): similar clinical and microbiological cure of cefiderocol over BAT (mainly colistin-based) for treatment of CR-GNB infections. *Concerns*: higher deaths in the cefiderocol group, but higher number of *A. baumannii* infections in this arm
- **GAME CHANGER** (ongoing)

Current Evidence from Real-life Studies

- **Falcone *et al.*** (2021): 10 critically ill patients receiving cefiderocol for CR-GNB VAP or BSI. 30-day clinical success 63%, 30-day survival 90%
- **Bavaro *et al.*** (2021): 13 patients with severe GNB infections (BSI, VAP, cIAI). Microbiological eradication achieved in all cases, 30-day survival 70%
- **Pascale *et al.*** (2021): 107 ICU patients receiving cefiderocol vs. BAT for CR-AB infection. Non-significant 28-day mortality differences between the groups
- **Falcone *et al.*** (2022): 124 patients recriving cefiderocol vs. BAT for CR-AB infection. Higher 30-day mortality in the BAT group (56% vs. 34%, $p = 0.018$)

Study Objectives and Endpoints

Study Objective

To evaluate efficacy and safety of cefiderocol used for various indications

Primary endpoints

- To assess 28-day and in-hospital mortality
- To assess clinical and microbiological cure at EOT

Secondary endpoints

- To identify patient profiles
- To evaluate safety and tolerability

Population and Methods

- **Study design.** Retrospective, multicentre observational
- **Inclusion criteria.** Individuals > 18 years hospitalized in the time period January 1, 2021 - February 28, 2023 who received cefiderocol for MDR GNB infections of various types, both as empirical and targeted therapy
- **Participating centres.** Coordinating centre is ASST Santi Paolo e Carlo, 31 other Italian centres have agreed to participate
- **Sample size.** 200 patients

Study Timeline

- Ethical committee approval has been received (April 2023)
- Pending ongoing discussions regarding minor revisions (May 2023)
- Expected end of data collection: September 2023
- Expected end of data analysis: October 2023
- Expected study report draft: November 2023
- Study findings shared at ECCMID 2024 and submitted to peer-reviewed journals