Retrospective analysis of cefiderocol for treating severe drug-resistant gram negative bacterial infections.

Background

Cefiderocol was first authorised for use in the UK, April 2020. A novel siderphore cephalosporin, is indicated “for the treatment of infections due to aerobic gram-negative organisms in adults with limited treatment options”[1]. Having been prescribed in the Belfast Health and Social Trust BHSCT) since 2020, a case per case evaluation of its use was carried out to facilitate more in-depth understanding of cefiderocol treatment and patient outcomes.

Methods

From November 2020 to November 2023, adult patients who were prescribed cefiderocol, had their case notes analysed. A database was developed and data was collected using patient case files, Northern Ireland Electronic Care Record, CareFlow EPMA® and OrderComms®.

Results

A total of 22 adult patients were commenced on cefiderocol and authorised on a restricted basis as per consultant microbiologist. Each patient had repeated cultures sent and reported. Some patients as per history, and presenting emergency were commenced on cefiderocol awaiting culture sensitivities. Cefiderocol was subsequently stopped when appropriate, and alternative therapy initiated. Some patients had multiple pathogens, and cefiderocol was prescribed alongside other antibiotics to treat all pathogens as per sensitivity reports. Cefiderocol was used to treat various pathogens including; *Enterococcus faecium*, *Pseudomonas aeruginosa*, *Stenotrophomonas maltophilia*, and positive Carbapenemase-Producing Organisms (CPO) such as *Escherichia coli*. The treatment course of cefiderocol ranged from 1 to 75 days, as per consultant microbiologist guidance. Cefiderocol was well tolerated by all the patients, there were no incidents of anaphylactic reactions. All of the

patients had ongoing monitoring e.g. renal function, and did not have to be stopped in any of the patients due to an adverse effect.

Conclusions

The results have proven that cefiderocol is an important treatment option, especially for carbapenem-resistant pathogens. However ongoing evaluation is necessary to determine its efficacy alone, or in combination with other antibacterials. This would be priority for critically ill patients who have exhausted all other options. This study has proven that for some patients, cefiderocol treatment alone was not suffice, and often necessary for the duration of treatment to exceed many weeks.

1. National Institute for Health and Care Excellence. (2022) Cefiderocol for treating severe drug-resistant gram-negative bacterial infections. Antimicrobial health technology evaluation guidance. https://www.nice.org.uk/about/what-we-do/life-sciences/nice-advice-service/models-for-the-evaluation-and-purchase-of-antimicrobials/cefiderocol