





Blood 142 (2023) 6969-6970

The 65th ASH Annual Meeting Abstracts

ONLINE PUBLICATION ONLY

721.ALLOGENEIC TRANSPLANTATION: CONDITIONING REGIMENS, ENGRAFTMENT AND ACUTE TOXICITIES

The Effect of Ciprofloxacin Prophylaxis during Haematopoietic Cell Transplantation on Infection Episodes, Exposure to Treatment Antimicrobials and Antimicrobial Resistance: A Single-Centre Retrospective Cohort Study

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Objectives

Fluroquinolone prophylaxis during haematopoietic cell transplantation (HCT) remains controversial. We aimed to determine its effectiveness and association with exposure to treatment antimicrobials and antimicrobial resistance.

Methods

All admissions for HCT in a tertiary centre between January 2020 and December 2022 (N=400) were studied. Allogeneic haematopoietic cell transplantation (allo-HCT) recipients had prophylaxis with ciprofloxacin during neutropenia, while autologous haematopoietic cell transplantation (auto-HCT) recipients not.

Results

Allo-HCT was performed for 43.3% (173/400) of patients, auto-HCT for 56.7% (227/400). In multivariable analysis, allo-HCT was associated with 1.01 (95% confidence intervals [CI] 0.62 - 1.40, p<0.001) fewer infection episodes per 100 admission days compared to auto-HCT. In allo-HCT, total exposure to all antimicrobials (+24.8 days of therapy [DOT]/100 admission days, p<0.001) and ciprofloxacin (+40.5 DOT/100 admission days, p<0.001) was higher, while exposure to meropenem (-4.5 DOT/100 admission days, p<0.001), piperacillin-tazobactam (-5.2 DOT/100 admission days, p<0.001), aminoglycosides (-4.5 DOT/100 admission days, p<0.001), glycopeptides (-6.4 DOT/100 admission days, p<0.001), was lower. Enterobacteriaceae isolated during allo-HCT were more likely to be resistant to ciprofloxacin (65.5%, 19/29 versus 6.1%, 2/33, p<0.001), and other antimicrobial classes. Vancomycin-resistant enterococci were more common in allo-HCT recipients (11%, 19/173 versus 0.9%, 2/227, p<0.001). Inpatient mortality during allo- and auto-HCT was 9.8% (17/173) and 0.4% (1/227) respectively (p<0.001).

Conclusions

Ciprofloxacin prophylaxis in allo-HCT was associated with fewer infection episodes and reduced exposure to treatment antimicrobials compared to auto-HCT. Mortality in auto-HCT remained low. Significant burden of antimicrobial resistance was detected in allo-HCT recipients.

Disclosures Baltas: *Menarini:* Honoraria; *Shionogi B.V.:* Honoraria, Research Funding; *Pfizer:* Consultancy. **Gilchrist:** *Pfizer:* Consultancy.

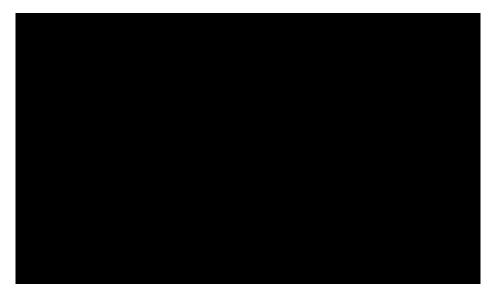


Figure 1

https://doi.org/10.1182/blood-2023-178396