



## The 65th ASH Annual Meeting Abstracts

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**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**

Fluoroquinolone 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,  $p = 0.02$ ), 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,  $p < 0.001$ ), ceftriaxone (65.5%, 19/29 versus 9.1%, 3/33,  $p < 0.001$ ), 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.

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**Figure 1**

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