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Paper Poster Session

Clinical epidemiology and host response

Bloodstream infections in patients with haematological malignancies

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Background: The primary objective of this study was to report the incidence rates of bloodstream infections (BSIs) and clinically or microbiologically proven bacterial or fungal BSIs during neutropenic episodes in patients with hematological malignancies. BSIs were focused on this study.

Material/methods: In this retrospective observational study, all patients in the hematology department older than 14 years who developed febrile neutropenia during chemotherapy for hematological cancers were evaluated. Patients were included if they had experienced at least one neutropenic episode between November 2010 and November 2012 due to chemotherapy in the hematology ward.

Results: A total of 282 febrile episodes of 126 consecutive patients with neutropenia was retrospectively analyzed during the study period, with 65 cases examined in the first year and 78 in the second year. The mean age was 51.73 ± 14.4 years (range: 17–82 years) and 60 patients were female. The mean MASCC score was 17.18 ± 8.27 (Table 1). The mean duration of FN was 29.38 ± 6.95 days. During 282 febrile episodes in 126 patients, 66 (23%) episodes of bacteremia and 24 (8%) episodes of fungemia were recorded in 48 (38%) and 18 (14%) patients, respectively.

Gram-negative bacteria (GNB) caused 74% (n: 49) of all bacteremia episodes. CR-GNB (n: 6) caused 12% and 9% of Gram-negative bacteremia episodes and all bacteremia episodes, respectively. Clinical and microbiological responses were achieved using either PIP-TAZ or CEP-SUL therapy in 76% (32/42) of the cases with bacteremia caused by carbapenem-sensitive Gram-negative bacteria (CS-GNB). The fatality rate was 50% among six patients with bacteremia caused by CR-GNB as a result of two cases of death associated with carbapenem-resistant *A. baumannii* and one case of death associated with carbapenem-resistant *P. aeruginosa*. Over the 2-year period, 18 cases with fungemia in 24 FN episodes, 19 cases with probable IPA infection in 25 FN episodes, 38 cases with possible IPA infection in 42 FN episodes, 30 cases with suspected IFI in 31 episodes, and 5 cases (5%) with hepatosplenic candidiasis were diagnosed and treated. Of the 24 episodes in 18 cases with fungemia, 15 episodes in 10 cases occurred in the first year and 9 episodes in 8 cases in the second year. In 13 of 18 cases (72%) with bloodstream yeast infections, previous azole exposure was recorded. *Candida parapsilosis*, *Candida glabrata*, and *Candida albicans* isolates possessed VOR and FLC resistance.

Conclusions: BSIs, which occur during febrile neutropenic episodes in hematological patients due to GNB should be treated initially with non-carbapenem based anti-pseudomonal therapy taking into antimicrobial stewardship. Non-azole antifungal drugs, including caspofungin, liposomal Amphotericin B, etc. should be preferred as empirical antifungal therapy in case of possible or probable invasive fungal infection with absence of pulmonary findings due to increase azole resistance.