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O1051 Factors associated with early and late mortality of patients with haematologic malignancy and invasive aspergillosis

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Background: Invasive aspergillosis (IA) is associated with high rates of death, but the contribution of patient, disease and treatment factors is poorly characterized. We analyzed causes of early and late mortality among patients with IA.

Materials/methods: The study cohort included 86 patients with IA hospitalized between 1/2007 and 1/2016. We analyzed all deaths up to 1 year after IA diagnosis, and categorized them as IA related, non-IA infection related, and non-infection related. We used Kaplan Meier and Cox regression to analyze causes of overall, early, and late mortality.

Results: Of 86 patients with IA, 29 (33.7%) died by 6 weeks and 60 (68.9%) died by 1 year after diagnosis. Of 60 deaths, 25 (41.6%) were IA-related, 33 (55%) were non-IA infection related (30 bacterial sepsis), and 7 (11.6%) were non-infection related. IA-related death was significantly more frequent ≤45 days as compared to >45 days after IA diagnosis (70% versus 13%, respectively; P<0.001). We therefore used a 45-day breakpoint to define early and late death after IA. Early mortality was associated with autologous hematopoietic cell transplantation (HR 6.9, P<0.001), positive serum galactomannan (HR 4.3, P=0.001), galactomannan >1.5 (HR 4.1, P=0.002), and treatment with Amphotericin B (HR 4.4, P=0.006). Late mortality was associated with refractory malignancy (HR 2.3, P=0.03) and inadequate radiologic and serologic response to treatment of IA six weeks after diagnosis (HR 2.1, P=0.04).

Conclusions: Bacterial and fungal infections are the predominant causes of death after IA. Galactomannan, a measure of fungal burden, and choice of antifungal treatment were associated with early mortality. Refractory malignancy was associated with late mortality. Interestingly, inadequate response to antifungal treatment was a risk factor for late death, suggesting that occult IA and its effects on immune reconstitution may persist longer than clinically apparent.