162. Invasive Mold Infections (IMIs) of the Central Nervous System (CNS) in Patients with Hematologic Cancer (HC) (2000–2016): Uncommon but Deadly

163. Risk Factors for Candidemia as Compared with Patients with Negative Blood Cultures Placed on Empiric Micafungin

Voriconazole (VORI) and amphotericin (AMB) and aggressive surgical debridement. Antifungal susceptibilities (AS) and relation to outcomes are yet to be described.

Methods. Between 2009 and 2013, military trauma patients with initial unique and serial (>3 days after initial isolation) molds isolated from wounds and admitted to Brooke Army Medical Center as part of the Trauma Infectious Disease Outcomes Study were assessed. AS to AMB, VORI, posaconazole (POSA), isavuconazole (ISA), itraconazole, and caspofungin were determined by broth microdilution with CLSI breakpoint interpretations for Aspergillus spp. and mucormycetes (MM).

Results. There was paucity of data regarding IMIs in the CNS in patients with HC or stem cell transplantation (SCT).

Methods. Review of the records of patients with HC and/or SCT recipients who were diagnosed with CNS IMIs at MD Anderson Cancer Center (1/1/2000–5/31/2016). IMIs were classified as proven or probable (EORTC/MSG criteria). We excluded patients with mixed CNS infections. Risk factors for survival at day 42 post diagnosis (d dx) were assessed. A multivariate logistic regression analysis was performed to identify independent predictors of mortality.

Results. We identified 40 patients (16 proven; 40%). Most patients were white (29; 73%) and male (33; 83%). Median age was 58 years. The most common HC was acute leukemia (23; 58%). Seventeen patients (43%) were SCT recipients; 13 (76%) had GVHD. Most patients had active HC and neutropenia at dx (38; 95% and 21; 53%, respectively). Twenty-seven patients (68%) were in the ICU at dx. Aspergillus spp. (13; 33%) and Mucorales (8; 20%) accounted for >50% of cases. CNS IMIs were deemed to be secondary to direct extension or hematogenous spread in 9 (23%) and 31 (77%) patients, respectively. In the latter group, 28/31 (90%) had fungal pneumonia. Of the 27 and 9 patients who had Aspergillus galactomannan antigen tested from serum and CSF, respectively, 18 had positivity in serum (66%) and 3 in CSF (33%). Most patients (30; 75%) were exposed to mold-active agents within 30d of dx. Most patients (34; 85%) received AMB and were treated with a combination therapy (43; 83%). CNS lesions presented as ring-enhancing abscesses radiographically (26; 65%). Absence of giant cells and granulomas in the pathologic examination of the brain lesions were associated with increased 42 days mortality (0% vs. 70%, P = 0.01 and 0.0% vs. 60% in those without, P = 0.03, respectively). In multivariate analysis, day of dx was associated with increased mortality (OR: 1.65, 95% CI: 1.4–1.983, P = 0.03) while steroid tapering was associated with decreased mortality (OR: 0.06, 95% CI: 0.01–0.53, P = 0.01). There was a trend towards protective role of surgical drainage (OR: 0.18, 95% CI: 0.03–1.1, P = 0.07).

Conclusion. CNS IMIs occur in patients with active HC who are often pre-exposed to antifungals. Immune response in pathology, steroid tapering and possibly surgical drainage are associated with improved outcome.

Discussion. D. P. Kontoyiannis, PhD, Research Contractor, Research support and Speaker honorarium. Astellas: Research Contractor, Research support and Speaker honorarium. Merck: Honorarium, Speaker honorarium. Cidara: Honorarium, Speaker honorarium. Amplex: Honorarium, Speaker honorarium. F2G: Honorarium, Speaker honorarium.