

O1120 Cerebral Aspergillosis Lesional Study (CEREALS): a multi-centre retrospective French study

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Background: Cerebral aspergillosis (CA) is a rare form of invasive aspergillosis. The objective of this study is to describe the clinical, mycological, radiological features and outcomes of the patients with CA to improve diagnosis and care of these patients.

Materials/methods: A multicenter, national retrospective French study was performed involving adults and children with a diagnosis of proven or probable cerebral aspergillosis according to the EORTC/MSG definitions, between 2006 and 2018.

Results: 106 patients with CA (49 proven, 57 probable) were included in 20 hospitals. Sixty-six percent were men and median age was 58 years [48-66]. Hematologic malignancies (38.7%), solid organ transplantation (SOT) (28.3%), diabetes mellitus (9.4%), autoimmune diseases requiring immunosuppressive treatment (7.5%), cirrhosis (2.8%) and a history of neurological or sinus surgery (2.8%) were the predominant comorbid conditions. Only 22.6% of the patients had neutropenia in the month preceding the diagnostic. Eight patients had no identified risk factor. Infection of the CNS occurred by hematogenous dissemination from an extracerebral site in 74 patients (68%) and direct extension from the paranasal sinuses in 27 patients (24.5%). Five patients had no obvious primary organ involvement. Hematogenous dissemination was more frequent in patients with hematologic malignancies (85%) and SOT (82%) whereas contiguous infection was more common in patients with diabetes (60%, $p=0.008$). Sensitivity of β -D-glucan, galactomannan and *Aspergillus* PCR were 92.3%, 62.6% and 54.1% in sera and 62.5%, 67.5%, and 52.3% in cerebrospinal fluid, respectively. Voriconazole was the first-line treatment for 79% of the patients. Eighteen patients underwent neurosurgical procedures with a complication rate of 50%. Overall survival was 46.2% at 3 months and 34% at 12 months. Contiguous infection of the CNS was associated with lower sensitivity of galactomannan, higher frequency of vascular complication and better outcome. Although a selection bias should be considered, the sub-group of patients who had had neurosurgery had a better survival ($p=0.013$).

Conclusions: CA should be considered in patients with hematologic malignancies and SOT with or without neutropenia but also in patients with less or no known immunosuppression. Mortality among CA patients remains high. When feasible, neurosurgical procedures may improve prognosis despite a significant morbidity.