Mucormycosis/ Zygomycosis: current concern

Mucormicose/ Zygomicose: preocupação atual

To Editor

Mucormycosis/ Zygomycosis (M/Z) is a rare invasive infection, mainly affecting immunocompromised hosts, and caused by filamentous fungi of Mucorales or Entomorphorales orders, which include the agents *Mucorales spp*, *Mucor spp*, *Rhizopus spp*, *Rhizomucor spp*, *Cunninghamella*, and *Lichthemia corymbifera*.[1-4] The main predisposing factors are hematologic or solid malignancies and diabetes[1-4] Recent studies have confirmed that this uncommon infectious disease is mortal in about 50% of cases. Retrospective studies by Turkish and Australian authors, and a Brazilian case report are commented[1-4] Kaya et al. reviewed records of 16 patients with zygomycosis, with mean age 52.50 ± 14.55 years, 68.7% female, treated between 2004 and 2010 in eight tertiary-care hospitals of Turkey.[1] Diabetes mellitus and corticosteroid therapy were the major underlying conditions, and the mortality rate of invasive infections was high despite of the adequate antifungal utilization and the surgical procedures.[1] The authors emphasized the systemic antifungal administration plus surgical debridement to improve clinical responses, because of the adverse role played by the large amount of local necrotic tissues.[1] Kömür et al. also reviewed 51 patients with mucormycosis, with mean age 44.2 ± 18.2 years, 55.9% female; treated between 2003 and 2013 on the Çukurova University Hospital in Turkey.[2] The main predisposing factors were hematologic (52.9%) and solid malignancies (5.8%), and diabetes (25.5%). The study confirmed that M/ Z infection remains as a mortal disease in approximately a half of the individuals, and the treatment with L-amphotericin B can be associated with good clinical responses.[2] Kennedy *et al*. reviewed 74 cases of mucormycosis, including immunocompetent hosts, in Australia.[2] The majority of infections were caused by *Rhizopus spp* (54.1%), underlying rheumatologic and autoimmune disorders were previously under-appreciated risk factors for infection and poor outcome.[2] Worthy of note, *Apophysomyces spp*. and *Saksenaea spp*. were detected in immunocompetent hosts, more frequently in association with antecedent trauma affecting sites other than the lungs and sinuses.[2]

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Corticosteroid therapy (52.7%), hematologic malignancy (48.6%), chemotherapy (41.9%), diabetes mellitus (27%), and trauma (22.9%) were the most common co-morbidities and/ or main risk factors.[2] In this context, I would comment some features of a Brazilian case report about the invasive infection. Ribeiro et al. reported mucormycosis in a patient with acute myeloid leukemia successfully treated with liposomal amphotericin B associated with deferasirox plus hyperbaric oxygen.[4] The 38-year-old Brazilian woman had febrile neutropenia secondary to chemotherapy for leukemia and presented with invasive disseminated mucormycosis successfully controlled.[4] Worthy of note were blood cultures positive for *Candida zeylanoides*, an uncommon opportunistic agent of invasive infection that was controlled by caspofungin and voriconazole.[4] Moreover, the diagnosis of M/Z infection was confirmed by direct microscopic detection in spleen specimens.[4] Although not consensual, the authors highlighted the potential role of enhanced arterial perfusion of the infected tissues exposed to oxygen on supra-atmospheric pressures.[4] The commented articles may enhance the suspicion index about M/Z, contributing to early diagnosis and prompt medical and surgical control that can reduce the mortality.[1-4] Further evaluation is needed about usefulness of hyperbaric oxygen associated with antifungal drugs.

References

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