To Editor

Mucormycosis/ Zygomycosis (M/Z) is a rare invasive infection, mainly affecting immunocompromised hosts, and caused by filamentous fungi of Mucorales or Entomophorales orders, which include the agents *Mucorales* spp, *Mucor* spp, *Rhizopus* spp, *Rhizomucor* spp, *Cunninghamella*, and *Lichtheimia corymbifera*. The main predisposing factors are hematologic or solid malignancies and diabetes. 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. 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. 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. 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. 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. 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. Kennedy *et al.* reviewed 74 cases of mucormycosis, including immunocompetent hosts, in Australia. 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. 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.
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. 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. The 38-year-old Brazilian woman had febrile neutropenia secondary to chemotherapy for leukemia and presented with invasive disseminated mucormycosis successfully controlled. Worthy of note were blood cultures positive for Candida zeylanoides, an uncommon opportunistic agent of invasive infection that was controlled by caspofungin and voriconazole. Moreover, the diagnosis of M/Z infection was confirmed by direct microscopic detection in spleen specimens. Although not consensual, the authors highlighted the potential role of enhanced arterial perfusion of the infected tissues exposed to oxygen on supra-atmospheric pressures. 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. Further evaluation is needed about usefulness of hyperbaric oxygen associated with antifungal drugs.

References