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Invasive mucormycosis in chronic granulomatous disease

Abdulnasir Al-Otaibi[1], Dayel Al-Shahrani[2], Eman Al-Idrissi[2], and **Hail Al-Abdely[3]**
[1]University of Toronto, Canada
[2]King Fahad Medical City, Saudi Arabia
[3]King Faisal Specialist Hospitals and Research Centre, Saudi Arabia

*Mucor*mycosis is an uncommon fungal infection caused by members of the order *Mucorales*. Populations at risk for this potentially life-threatening infection include hematopoietic stem-cell transplant (HSCT) recipients, patients with hematological malignancies, diabetes mellitus, ketoacidosis, burns, trauma, premature neonates, and patients receiving iron chelation. *Rhizopus* is the most commonly identified species, followed by *Mucor* spp. Common patterns of mucormycosis are cutaneous, gastrointestinal, rhinocerebral, and pulmonary. Amphotericin B is the antifungal drug of choice for treatment of mucormycosis. Combination polyene-caspofungin treatment was found to be associated with improved survival in patients with rhino-orbital-cerebral mucormycosis, compared to polyene monotherapy. Surgery is an important adjunctive therapy and was shown to decrease mortality in patients with mucormycosis. We described rare presentations of pulmonary mucormycosis caused by *Rhizopus* spp. in 2 patients with CGD; with chest wall and spinal involvement in a child, and cardiovascular involvement in an adult patient. Case 1: A 2-year-old girl presented with pneumonia and pleural effusion that failed to respond to prolonged courses of broad spectrum antibiotics and pleural drainage. Examination revealed a febrile, malnourished child with enlarged liver and spleen. Chest examination showed a firm mass extending from the axial to the posterior aspect of the right chest wall. CT scan showed consolidation involving right lower lobe, middle lobe, and posterior segment of the right upper lobe with pleural effusion. A right chest wall mass with intraspinal extension was also noted. Cultures of tissue obtained from surgical biopsy of the chest wall mass grew *Rhizopus* spp. She was subsequently diagnosed to have CGD based on oxidative burst test result. Treatment with liposomal amphotericin B was initiated at a dose of 5 mg/kg/day then increased to 7 mg/kg/day. Caspofungin and interferon γ (IFN-γ) were added to treatment. She underwent surgical debulking of the chest wall mass and near-total pneumonectomy. She was then referred to a specialized center for HSCT.

abdulnasir.al-otaibi@sickkids.ca