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Contact/Presenting Author: Tahuanty A. Pena

Department/Institution: Pulmonary/Critical Care and Sleep Medicine, Wayne State University/Detroit Medical Center

Address: 3990 John R, 3 Hudson

City/State/Zip/Country: Detroit, MI, 48201

Phone: 313-966-0695 **Fax:** 313-745-2481 **E-mail:** tpena@med.wayne.edu

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Title: Incidence and Outcome of Pulmonary Aspergillosis in Patients with Sarcoidosis

T. A. Pena, MD¹, J. Villegas, MD¹, K. Grullon, MD¹, A. O. Soubani, MD¹ and L. Samavati, MD¹. ¹Wayne State School of Medicine, Detroit Medical Center, Detroit, MI.

Introduction: Pulmonary Aspergillosis is a common fungal infection in immunocompromised patients and patients with advanced pulmonary diseases. Sarcoidosis is a chronic disease associated with immune dysregulation and inflammation, leading to tissue destruction. Use of immunosuppressive medications may increase the risk of developing fungal infection in this disorder. We aimed to determine the incidence, outcome and the clinical risk factors of pulmonary aspergillosis in patients with sarcoidosis. **Methods:** Prospective follow up of 8 patients with pulmonary aspergillosis among 400 patients with confirmed sarcoidosis. Subjects were followed over a 5 year period regarding their outcome and response to treatment. **Results:** All 8 patients were African-American and had biopsy proven sarcoidosis. Seven of the eight patients had radiologic stage 4 and one stage 2 disease. At the time of diagnosis of aspergillosis, mean age was 47.5 years and mean FEV1 was 2.1 (L). All patients had the radiologic features of aspergilloma, 6 had bronchioectasis. The most prevalent pathogen recovered from BAL or sputum was *Aspergillus fumigatus* (7 out of 8), followed by *Aspergillus flavus*. These patients had a significant higher incidence of tobacco use 66% (5 of 8) or marijuana use (50%) compared to cohort. Serum galactomannan level was measured in 4 patients and was not elevated in any. The predominant symptom was hemoptysis, leading to 3 deaths. All patients received antifungal therapy with moderate success. Surgical resection of mycetoma was successfully performed in 3 patients. **Conclusion:** The association of pulmonary sarcoidosis and aspergillus infection has a high mortality. The cardinal symptom is hemoptysis which is also leading cause of death. There was a clear association with sarcoidosis stage 4. Galactomannan assay is not useful for the diagnosis. Aggressive therapeutic intervention like surgery may improve outcome.