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Blastomycosis- A rare, but a significant disease

Blastomycosis is a significant cause of respiratory mycoses in North America, with occasionally reported outbreaks. Until recently, *Blastomyces dermatitidis*, described in 1894, was considered the sole etiologic agent of blastomycosis. With the recent advances in fungal biology, several distinct genetic populations were identified as new species within the genus *Blastomyces*. These included *B. gilchristii*, *B. percursus*, *B. silverae*, *B. parvus*, and *B. helicus*. Recently, we have developed a highly sensitive, specific, and reproducible TaqMan duplex real-time PCR assay to differentiate *B. dermatitidis* and *B. gilchristii*. The retrospective analysis of *Blastomyces* cultures (2005 to 2019) and primary clinical specimens from blastomycosis cases (2013 to 2019) from New York patients revealed that *B. dermatitidis* is the predominant pathogen, identified in the 38 cases of blastomycosis, while *B. gilchristii* is a minor pathogen involved in five cases. In summary, the molecular diagnostic tests provide timely results for high-quality patient care, low contamination risk, and ease of performance and speed. Research work must continue developing new molecular and advanced techniques for rapid and accurate diagnosis of other *Blastomyces* species to understand the ecology and epidemiology of blastomycosis in North America and other parts of the world where this disease is endemic.

Biography:

Dr. Sudha Chaturvedi is the Director of the Mycology Laboratory, which serves as the comprehensive reference facility for fungal diagnostics for all NYSDOH-licensed clinical laboratories, including hospitals, academic medical centers, county health departments, and commercial laboratories. Her research focus of laboratory is to understand the molecular mechanisms underlying the non-classical release of oxidative proteins. Major aim of this investigation is to define how non-classically exported proteins pass through the cell membrane and cell wall, and which membrane and cell wall proteins facilitate these processes.