

# Blastomycosis

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Blastomycosis -also known as North American blastomycosis or Gilchrist's disease- occurs in a geographically limited area of the south central and midwestern USA, upstate New York and southern Canada. A few cases have been described from Africa, the Middle East, India and Mexico. The fungus occurs in soil enriched with animal excreta and moist, acid, decaying organic material. Infection follows the inhalation of conidia (asexual spores) of *Blastomyces dermatitidis*. Both man and dogs can be infected. The spores will convert into yeasts, which will invade the lungs and occasionally spread haematogeneously to several organs, especially skin, bone or urogenital system. Pulmonary infection can be asymptomatic. Genital involvement such as chronic epididymitis, mimicking tuberculosis. Cough, low to moderate fever, dyspnoea and chest pain, purulent/bloody sputum, pleural fluid, weight loss and prostration occur in symptomatic patients. Radiological studies usually reveal pulmonary infiltrates and enlarged hilar lymph nodes. Progressive pulmonary blastomycosis resembles tuberculosis or a neoplasm. Raised single or multiple verrucous cutaneous lesions that tend to have an abrupt downward sloping red-purplish border are usually present in disseminated blastomycosis. The border extends slowly, leaving a central atrophic scar. Those skin lesions can resemble skin cancer. Bones such as ribs and vertebrae are frequently affected (25-75%). Lesions appear both destructive and proliferative on radiography. Central nervous system lesions are uncommon. Acute self-limiting blastomycosis is rarely diagnosed. The organism is found in clinical specimens as a thick, double-walled cell, 5-20 µm in diameter, sometimes even reaching 30 µm. Some yeast cells have a single bud. Definite identification is via culture but detection of the above mentioned yeast cells in pus, sputum or urine is very suggestive. Gomori's methenamine silver stain and PAS staining are useful for biopsies. Serology is not useful. Untreated disseminated blastomycosis is usually progressive and can be fatal. Itraconazole (200-400 mg/day) is used as a first-choice treatment. If no improvement occurs the dose of itraconazole can be increased to 800mg per day or switch over to IV amphotericin B. Follow-up in order to identify a relapse should continue for several years.