

Disseminated blastomycosis causing scapular destruction

Hongru Ren MD, Brett Memauri MD, Aditya Sharma MD

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A 38-year-old man from Manitoba with diabetes and hypertension presented to the emergency department with a 5-month history of a progressively painful right shoulder mass. He also reported 3 weeks of fever, dyspnea, cough, night sweats and weight loss. The patient had mildly increased work of breathing and tachycardia, but was normotensive and normoxemic. He had a tender 15 x 15 cm fluctuant mass overlying the right posterior scapula. Chest radiographs showed a diffuse micronodular pattern and extensive lysis of the right scapula (Appendix 1, available at www.cmaj.ca/lookup/doi/10.1503/cmaj.201177/tab-related-content). Further imaging showed a multifocal, lobulated mass causing invasion and destruction of the right scapula, and diffuse bilateral miliary lesions (Figure 1 and Appendix 1). Our differential diagnosis included tuberculosis, viral pneumonitis, disseminated fungal disease and metastatic malignancy. We also suspected blastomycosis, as the patient frequented an endemic area in Northwestern Ontario (Kenora), where the annual incidence of blastomycosis is 17 cases per 100 000 people.¹ Bronchoalveolar lavage and aspiration of the shoulder mass showed broad-based budding yeast consistent with *Blastomyces dermatitidis*. We prescribed continuous liposomal amphotericin B infusion and the patient had ultrasound-guided drainage of the shoulder abscess. Two days into treatment, he briefly required bilevel positive airway pressure to treat hypoxemic respiratory failure. After a week, we switched his amphotericin B to oral voriconazole for a total treatment course of 12 months, and he has made a good functional recovery with the ongoing help of physiotherapy.²

Extrapulmonary manifestations of blastomycosis occur in 25%–40% of patients with pulmonary disease, and most commonly involve the skin and bones.^{2,3} Risk factors for respiratory failure

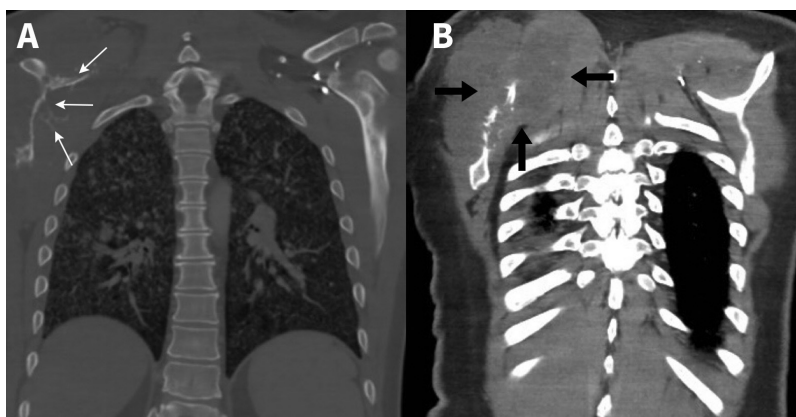


Figure 1: Noncontrast enhanced computed tomography scans of a 38-year-old man's thorax. Coronal reconstructions on the thorax using bone (A) and soft-tissue (B) algorithms showed extensive destruction of the right scapula (thin arrows) from osteomyelitis and a surrounding, multiloculated abscess extending from the scapula to the supraclavicular fossa (thick arrows).

requiring mechanical ventilation among these patients include diabetes and diffuse pulmonary disease.^{3,4} Our case emphasizes the importance of considering blastomycosis in patients with destructive osteomyelitis of any bone, especially when patients have travelled to regions with endemic blastomycosis.

References

1. Litvinjenko S, Lunny D. Blastomycosis hospitalizations in northwestern Ontario: 2006–2015. *Can Commun Dis Rep* 2017;43:200-5.
2. Chapman SW, Dismukes WE, Proia LA, et al. Clinical practice guidelines for the management of blastomycosis: 2008 update by the Infectious Diseases Society of America. *Clin Infect Dis* 2008;46:1801-12.
3. Kralt D, Light B, Cheang M, et al. Clinical characteristics and outcomes in patients with pulmonary blastomycosis. *Mycopathologia* 2009;167:115-24.
4. Lahm T, Neese S, Thornburg AT, et al. Corticosteroids for blastomycosis-Induced ARDS: a report of two patients and review of the literature. *Chest* 2008;133:1478-80.

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Affiliation: Department of Internal Medicine, University of Manitoba, Winnipeg, Man.

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Correspondence to: Hongru Ren, renh@myumanitoba.ca