SEVERE DISSEMINATED BLASTOMYCOSIS WITH PULMONARY AND CUTANEOUS INVOLVEMENT: A CASE REPORT

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INTRODUCTION

In the midwestern city of Indianapolis, IN, known historically for a prior blastomycosis outbreak, this case report demonstrates how Blastomyces dermatitidis infection with multi-organ involvement can easily be misdiagnosed and therefore inappropriately managed. Blastomycosis is a systemic pyogranulomatous infection that often mimics other diseases. Most cases are in North America, but epidemiology is unclear due to testing limitations and lack of studies. Treatment with antifungal agents such as amphotericin B or itraconazole is standard. This case reminds the Osteopathic physician to consider all facets of a patient and their illness not in isolation, but as a whole.

CASE REPORT

- A 41-year-old female presented to her primary care physician (PCP) with a chief complaint of fever, fatigue, non-productive cough and painful rash.
  - Scattered erythematous papules and subcutaneous nodules on exam were diagnosed as folliculitis and treated with topical antibiotics.
  - Pulmonary exam was unremarkable. Point of care COVID-19 and influenza A/B testing was negative.
  - Conservative/expectant management was recommended for presumed viral rhinitis.
- Patient later presented to the emergency department with worsening flu-like symptoms and rash.
  - Imaging showed pulmonary consolidation and subcutaneous soft tissue nodules on her chest and abdomen.
  - Patient was admitted for treatment of community acquired pneumonia (CAP) and further workup of the pustular rash.
- Empiric antibiotics were administered for CAP.
- Additional infectious workup was unremarkable.

IMAGING

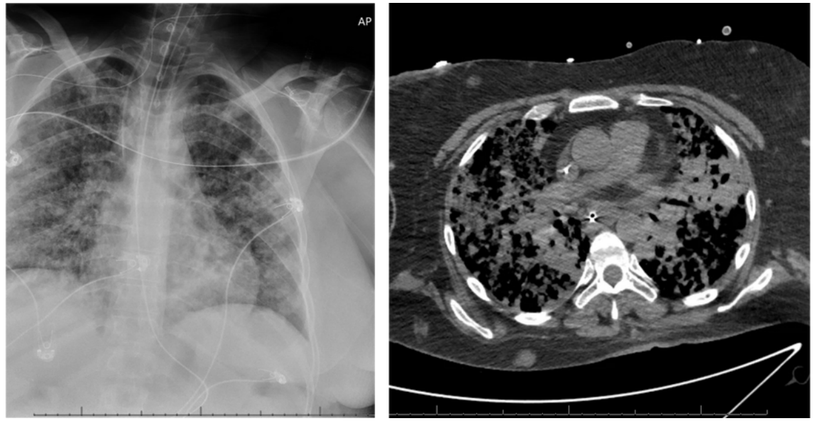

Figure (above): Chest x-ray and CT chest demonstrated pulmonary consolidation and subcutaneous soft tissue nodules in patient's chest and abdomen .

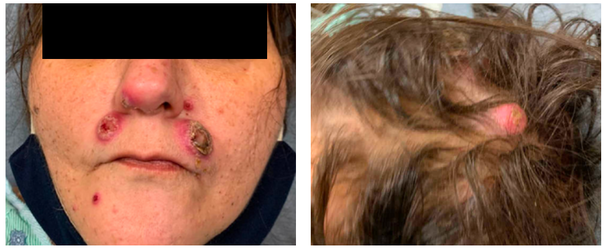

Figure (left): shows developing facial and scalp lesions.

CASE REPORT

- Infectious Disease was unable to discern an identifiable infectious or autoimmune etiology for the worsening pulmonary infiltrates and skin nodules.
- General surgery was consulted for wound biopsy. Preliminary wound cultures were unremarkable, and the patient was discharged on oral steroids.

OUTCOME

- The patient subsequently presented to multiple emergency departments and PCP office only to receive additional antibiotics despite worsening symptoms.
- The patient suffered a seizure and cardiac arrest at home. Patient received advanced cardiac life support by EMS and in the emergency department and was admitted to the intensive care unit.
- Culture data from prior hospitalization grew Blastomyces dermatitidis. Despite empiric amphotericin B and broad-spectrum antibiotics, the patient expired secondary to advanced disease after 43 days in the ICU.

DISCUSSION

This case demonstrates the importance of treating the whole patient as outlined in the tenets of Osteopathic Medicine. Treating parts of this patient's presentation in isolation likely contributed to delayed diagnosis and worse outcomes. Acute blastomycosis pulmonary infection is often misdiagnosed as a bacterial or viral and chronic pulmonary infection for malignancy or tuberculosis. Extrapulmonary involvement and multiorgan involvement occurs through hematogenous spread. Those with advanced disease are often immunosuppressed. Definitive diagnosis is made by culture. Serum and urine antigen detection can also be used. Diagnosis by early biopsy of lesion or presumptive diagnosis by direct visualization on wet preparation could have led to earlier diagnosis and treatment for this patient.

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