Blastomycosis and Severe ARDS Complicating Pregnancy

Primary Author: John Cagino MD  
Albany Medical Center

Co-Authors: Lindsay Gennari, MD; Sarah Colihan, MD;

Background: Blastomycosis is a rare fungal infection caused by the dimorphic microfungus Blastomyces dermatitidis. It is endemic to eastern North America, particularly in the western and northern periphery of the great lakes basin. The most common sites of infection are the skin and lungs. An uncommon but very dangerous type of primary blastomycosis manifests as acute respiratory distress syndrome (ARDS). We explore an unusual case of blastomycosis and ARDS in a parturient who ultimately required an urgent cesarean delivery and extracorporeal membrane oxygenation (ECMO).

CASE: A 30 year old woman at 29 weeks of gestation presented to the emergency department with shortness of breath and chest pain. Her past medical history consisted of complex regional pain syndrome type 1 of the right upper extremity requiring a spinal cord stimulator. She had presented to an outside hospital the week prior where she was diagnosed with costochondritis and discharged on a steroid taper. On presentation, physical exam revealed a soft tissue mass on her right anterior chest wall. A chest x-ray was suggestive of atypical pneumonia and the patient was started on empiric antibiotics. Only a few hours after admission, she deteriorated rapidly to hypoxic respiratory failure and required intubation. Despite conventional management of the ARDS she continued to deteriorate. The intensive care team considered placing the patient prone to improve her respiratory status but that was not deemed feasible given her pregnancy. A discussion took place if delivery would improve her clinical status or if she was too unstable to undergo a cesarean section. Fetal status was initially reassuring, but eventually recurrent late decelerations occurred. She was brought to the operating room for an urgent cesarean section. Throughout the cesarean section maternal oxygenation remained poor. A bronchoscopy was performed and the chest wall mass biopsied during her hospitalization, confirming the diagnoses of blastomycosis. Post operatively on 100% FiO2 and high PEEP her oxygenation didn’t improve, despite further maneuvers such as paralysis and prone positioning. Therefore, the decision was made to transfer the patient to an ECMO center.

Conclusion: Blastomycosis causing ARDS is rare but carries an 89% fatality rate compared to 10% in non ARDS patients. In this case we have both the mother and fetus to consider. Continued maternal hypoxia will eventually cause fetal hypoxia and decelerations. Both the physiologic changes of pregnancy as well as mechanical compromise from the gravid uterus makes management of ARDS difficult. Also in this case the patient was unable to be placed prone due to the pregnancy. Traditionally it is “mom before baby” however in this case fetal status was deteriorating and the hope was that delivery would cause an improvement in maternal oxygenation. When evaluating a pregnant patient with suspected infection it is important to keep a wide differential diagnosis given the immunocompromised nature of pregnancy. A multi-disciplinary
approach between obstetrics, critical care, and anesthesiology is important for optimal care of any critically ill antepartum patient.