

A case of acute, rapidly fatal disseminated toxoplasmosis in a Pennsylvania Deer Hunter.

Introduction

Toxoplasmosis is a zoonosis caused by *Toxoplasma gondii*, an obligate intracellular protozoan. Felines are the definitive host, however other mammals, birds and reptiles can be infected. Primary infections in adults are usually asymptomatic and severe disseminated infections typically occur in immunosuppressed individuals.

Case description

A 70-year-old male presented with fever, chills, diarrhea and malaise. He was well until his return from deer hunting a week ago. He shot a deer, field-dressed it, butchered it locally after 4-5 days, retrieved the meat, cooked and ingested the game. A 5-day course of azithromycin as outpatient gave no relief. On arrival, he was febrile, tachycardic and tachypneic with a blood pressure of 77/47 mmHg. Laboratory analysis revealed serum creatinine 2.77mg/dL (baseline 1.3mg/dL), alanine aminotransferase 242 IU/L, aspartate aminotransferase 255 IU/L, and white blood cell count 10400/ μ L with 10.1% lymphocytes. Computed tomography of chest showed patchy bibasilar pneumonitis. Intravenous fluids and empiric broad-spectrum antibiotics were started. Due to ongoing tachypnea with bilevel positive airway pressure, he was intubated, following which he became hypotensive requiring vasopressors. On day 2 of admission, renal failure and liver failure progressed, and he developed acute respiratory distress syndrome. He demonstrated ventricular dyssynchrony and high respiratory drive requiring sedation, paralysis and prone positioning. Due to severe irreversible multisystem failure, he was not a candidate for extracorporeal membrane oxygenation. He went into refractory shock requiring 4 vasopressors in addition to steroids. He continued to have rapid clinical deterioration, had cardiac arrest and passed away on day 3. Autopsy pathology revealed disseminated toxoplasmosis with advanced toxoplasma pneumonitis, lymphadenitis, encephalitis, and myocarditis. Note was made of lymphopenia, splenic/pancreatic atrophy that may have been markers of an undiagnosed immunosuppression.

Conclusion

The extent and rapid course of infection suggests that patient was likely immunosuppressed and probably acquired infection from undercooked venison. Rapidly progressive fatal illness after exposure to wild game has a wide range of potential causes, including dysenteric organisms, prions and illnesses such as toxoplasmosis. Improper handling, preparing and storing of meat all increases risk. Physicians should keep a broad differential in the face of recent wild game exposure and acute illnesses.