**BACKGROUND**

- Babesiosis, caused by apicomplexan parasites from the Babesia genus, is primarily transmitted by Ixodes scapularis ticks and occasionally through blood transfusion, organ transplantation, and congenital means.
- While over 100 species have been identified, including Babesia (B.) microti, B. divergens, B. duncani, and the yet unnamed MO-1 strain, B. duncani is primarily found on the West Coast.
- However, its presence in the northeastern US is now emerging^1^,^2^.
- Most cases occur during spring and summer, presenting with flu-like symptoms.

**CASE SUMMARY**

- A 22-year-old male presented with fever and joint pains, having recently traveled to Israel and stayed in rural Pennsylvania. He did not recall a tick or mosquito bite.
- Labs were remarkable for WBC 3.1, low absolute neutrophil count (1.5 with 2 blast forms), elevated LDH 393, and elevated ALT/AST levels in 200s.
- Initially, he was treated for suspected Lyme disease with doxycycline, however he developed a headache which was suspected to be due to Doxycycline and was switched to Amoxicillin and Rifampin.
- Brain MRI showed findings of subarachnoid space infection.
- Serology and CSF studies for CMV, EBV, VZV, HSV, Anaplasma, Rickettsia, West Nile, cryptococcus, and parvovirus were negative.
- CSF studies were unremarkable with normal glucose, a slightly elevated protein with a white count of 44, with 99% monocyte predominance.
- Serology testing (WA1 IgG AB FTA) for B. duncani returned positive (> or = 1:256 Antibody). He was treated with azithromycin and atovaquone for 7 days. Eventually, his symptoms improved in 2-3 days.

**DISCUSSION**

- Babesiosis occurrences were thought to be rare in Pennsylvania, and B. duncani cases even rarer^3^.
- This case report underscores the significance of B. duncani testing for suspected tick-borne illnesses and highlights its emergence in the eastern US.
- The unique presentation involves a traveler with unexplained neutropenia, thrombocytopenia, and hemolytic anemia unresponsive to doxycycline.
- Evidence suggests potential antibiotic resistance of B. duncani, complicating treatment with standard agents like atovaquone and azithromycin^4^.
- As per a study conducted by Renard I, et al. the drugs Atovaquone, Azithromycin, Clindamycin, and Quinine have questionable efficacy in achieving parasite elimination.
- They believe that Quinolone when combined with Atovaquone is a promising treatment with better potency and efficiency to eliminate infection^5^.

**REFERENCES**


**ABBREVIATIONS**