Swimming Through Lake Placid: A Major Headache

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INTRODUCTION

Leptospirosis is caused by Leptospira species, a spirochete bacterium that affects animals and humans. The disease can range from mild flu-like illness to multi-organ failure. While likely underreported, the incidence according to the World Health Organization can range from 0.1 to 10 per 100,000 depending on climate. Leptospirosis is commonly associated with occupational or recreational exposures.

CASE REPORT

A 43-year-old previously healthy man presented with two weeks of myalgias, fevers, neck pain and throbbing headache. The patient competed in an Iron Man event in upstate New York one month prior to presentation. Initial investigation demonstrated a mild anemia, elevated aminotransferases and negative head CT. Lumbar puncture revealed a cerebrospinal fluid (CSF) pleocytosis, normal glucose, negative head CT. The patient's symptoms and transaminitis persisted.

Within 24 hours, he improved significantly and was discharged with a course of doxycycline. Acyclovir was discontinued after negative HSV PCR.

Subsequently, all elements of the infectious evaluation returned negative except a positive Leptospirosis Ab. The patient's symptoms and transaminis fully resolved.

DISCUSSION

Leptospirosis is among the most common zoonotic infections worldwide, however in the United States only about 100-150 cases are reported annually, mostly in Hawaii and Puerto Rico.

The organism infects humans through contact with urine of infected rodents, dogs, and livestock or urine-contaminated environments.

Patient's commonly present with:

- Fevers, myalgias, and headaches after an incubation time of 2 to 26 days
- Other findings can include cough, arthralgias, nausea and vomiting, abdominal pain, and rash
- About 40% of people have elevated aminotransferases, and 50-85% have aseptic meningitis
- Severe cases can progress to jaundice, renal failure, pulmonary hemorrhage, myocarditis, rhabdomyolysis, and ARDS

Leptospirosis is associated with a variety of risk factors, including occupational exposures and recreational activities. Large outbreaks are usually associated with recent rainfall or flooding. The bacteria can invade through skin abrasions or conjunctiva, or by swallowing contaminated water. The relationship between the risk of outdoor water sports and Leptospirosis infection is well described in the literature, with outbreaks around the world, including in Illinois (1998) and Florida (2005). Coincidentally, there had been significant recent rainfall with run-off into Lake Placid, the location of this patient's Iron Man competition.

Our patient's CSF analysis was consistent with aseptic meningitis, but the time course was longer than expected for viral meningitis. Although rare in the United States, clinicians should consider leptospirosis in patients with aseptic meningitis, elevated aminotransferases, and potential exposure history.

REFERENCES