

Persistent Fever in a Young Critically Ill Woman

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Key words: Fever of unknown origin, brucellosis, sarcoidosis, granulomas, fever.

Case presentation

A 26 year-old African-American lady was transferred to the intensive care unit (ICU) with severe hypovolemia. She had a two month history of recurrent fevers. The patient did not have any significant medical history and family history was remarkable only for rheumatoid arthritis. Her fever was intermittent and associated with progressively worsening general malaise, early satiety, nausea, and vomiting. There was no recent history of travel or ill contacts. Evaluation by her primary care physician resulted in empiric treatment with multiple courses of oral antibiotics, however, the patient's condition continued to gradually worsen. Her fever increased in both frequency and intensity reaching over 39.4 °C daily.

Upon arrival to the hospital, broad-spectrum antibiotics and intravenous fluids were administered, however, her clinical course deteriorated with protracted hypotension, prompting her transfer to the ICU. On arrival to the ICU, her exam revealed a young woman in distress: blood pressure 70/50 torr, heart rate 139/min, respiratory rate 32/min, temperature of 40.2 °C, and oxygen saturation was 97%. Additional pertinent exam findings included mild scleral icterus and uveitis, prominent cervical lymphadenopathy,

bibasilar crackles on respiratory auscultation, and right upper quadrant tenderness with a liver edge palpable 3.5 cm below the right costal margin.

Initial laboratory data was unrevealing and included a complete blood count, a metabolic panel, a viral hepatitis panel, RPR screen, HIV serology, and urine toxicology screen. Elevated liver enzymes were found which prompted the request of an abdominal MRI (**Figure 1**). This test revealed an enlarged liver with periportal and periaortic lymphadenopathy. Blood and urine cultures were negative. Workup for autoimmune etiology was unrevealing with the exception of an angiotensin converting enzyme level of 194 U/L. Given the patient's presentation, sarcoidosis was strongly suspected and the patient underwent liver biopsy to rule out autoimmune or neoplastic processes. In addition, this patient was tested for fungi, tuberculosis, aspergillosis, blastomycosis, coccidiomycosis, histoplasmosis, brucellosis, rickettsia-related illness, Epstein-Barr virus and cytomegalovirus infection. Most of these tests were non-revealing. Three days after admission to our unit, serology for brucella antibodies (ELISA) eventually revealed a positive result with titers of 1:1280. This result was confirmed by the blind liver biopsy which showed multiple non-necrotizing granulomatous hepatitis consistent with brucellosis (**Figure 2**). Intravenous (IV) doxycycline and rifampicin were started along with continued supportive care and IV fluids. The patient continued to spike fevers but she gradually stabilized.

Further discussions with the patient and her family revealed them having a ranch they visit frequently but denied any ingestion of un-pasteurized milk or cheese. No other family

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member described any symptoms. This case was reported to the public health authorities.

Once the patient was volume-resuscitated in the ICU, she was transferred to the floor and a few days later discharged from the hospital with instructions for regular follow up.

Figure 1. Magnetic Resonance Imaging (MRI) of the Abdomen Illustrating Hepatic Enlargement and Perihepatic Lymphadenopathy (arrow)

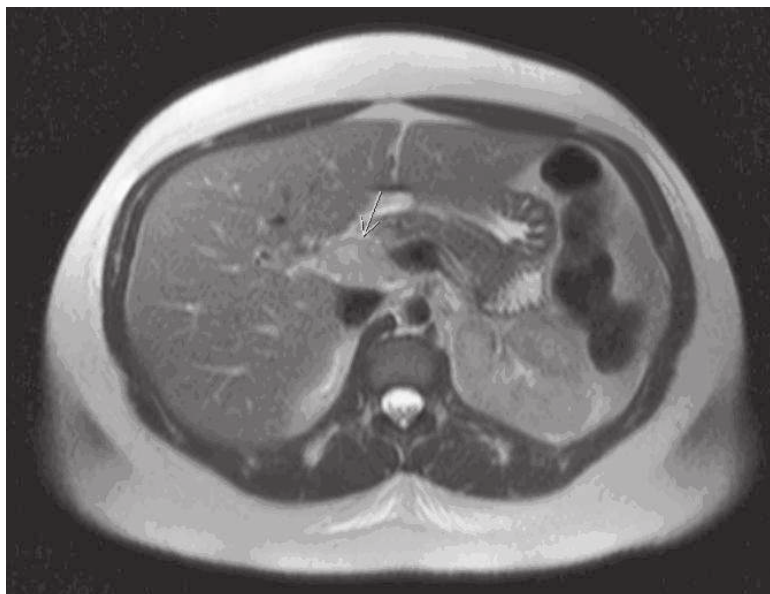


Figure 2. Microscopic View of Liver Tissue Biopsy

