Patient with Fever and Diarrhea

(See pages 994–5 for the Photo Quiz)

Figure 1. Liver biopsy specimen showing fibrin ring granuloma (black arrow) and epitheloid cells with a few segmental leukocytes with a central small hole (red arrow) surrounded with an eosinophilic band (hematoxylin-eosin stain of the liver parenchym; original magnification, ×400).

Diagnosis: Q-fever hepatitis and retinal vasculitis.

In patients presenting with hepatitis and fever of unknown origin due to Q fever, the typical fibrin ring granulomas are seen on a liver biopsy specimen (figure 1). These granulomas have a dense fibrin ring surrounding a central lipid vacuole and are highly suggestive of Q fever, but they may be seen in Hodgkin disease and infectious mononucleosis [1, p. 2300]. Retinal vasculitis (figure 2) associated with Q fever is described in an article by Kuhne et al. [2], in which, to the best of their knowledge, the first 2 cases of retinal vasculitis associated with Q fever were reported.

Diarrhea was a prominent feature in the initial phase of the illness. One could attribute it to the Cyclospora cayetanensis detected in the patient’s fecal sample, because such infection can cause severe diarrhea in immunocompetent patients and has been described in Turkey [3]. The quinolone therapy that was started on day 2 after admission to the hospital had no effect [4]. The diarrhea disappeared 1 day after doxyxycline was given. Doxyxycline is not documented as an effective treatment for this parasite, but it is effective in treating acute Q fever. Diarrhea is seen as a presenting symptom in 5%–22% of cases of acute Q fever [5]. For these reasons, it is more likely that the diarrhea was caused by Coxiella burnetti.

At the same time that we confirmed the presence of fibrin ring granulomas, our patient experienced seroconversion of Q fever phase II antibodies, which established the diagnosis of Q fever hepatitis. Doxycyclin was given at a dosage of 100 mg twice per day. Because our patient was known to have a heart murmur, and because we knew that the estimated risk of developing endocarditis in patients with acute Q fever who have a valvular defect is 39% [6], a transoesophageal echocardiogram was performed. Thickening of the aortic valve was seen, and a possible small vegetation was detected. Valvular lesions caused by Q fever are often small and discrete, so we could not rule
out endocarditis and decided to treat the patient by adding hydroxychloroquine administered at a dosage of 200 mg 3 times per day and continuing dual-drug treatment for at least 10 months [6]. After 8 months, the Q fever phase 1 antibodies became strongly positive with a titer of 1:8192, a serologic profile suggestive of chronic Q fever. The rare cases of Q fever hepatitis involving a serologic profile of chronic Q fever should be treated for >2 weeks. There are no data on which to base a recommendation for the exact duration of therapy [1, p. 2300]. The patient resumed his job and felt fully recovered after 3 months of therapy. A fundoscopic examination performed at 3 months showed that the retinal vasculitis had resolved. A transoesophageal echocardiogram obtained at 6 months after initiation of treatment showed no abnormalities. Liver function test results returned to normal at 9 months after initiation of treatment. At 12 months, the titer of IgG phase 1 antibodies decreased to <1:800, and treatment was stopped at month 15, when the titer of IgG phase 1 antibodies was 1:256. Three months after the treatment was stopped, the titer of the IgG phase 1 antibodies increased to 1:2048; 10 months later, it decreased again to 1:256. The patient did not report any symptoms, and liver function test results remained normal. In summary, this case report describes a patient with acute Q fever infection that, despite the receipt of adequate treatment, developed into chronic Q fever hepatitis with the rare complication of retinal vasculitis.

Acknowledgments


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