

Acute monoarthritis as presenting manifestation of acute Q fever: Report of a new case and literature review

Sirs,
Q fever is a worldwide zoonosis caused by *Coxiella burnetii*, a strict intracellular bacterium. The name "Q fever" derives from "Query fever" and was given in 1935 following an outbreak of this febrile illness in an abattoir in Queensland, Australia (1). Human infection results from inhalation of infected aerosols or ingestion of unpasteurized milk from subclinically infected farm animals. Acute Q fever is known to be a cause of acute pneumonia, hepatitis or self-limited fever. The most frequent clinical manifestation of the acute form is a self-limited febrile illness which is associated with severe headache, muscle ache, arthralgia and cough. Meningoencephalitis, thyroiditis, pericarditis, myocarditis, mesenteric lymphadenopathy, haemolytic anaemia, and nephritis are uncommon manifestations. Acute arthritis as presenting manifestation of acute Q fever is also exceptional (2). The chronic form is often associated with severe complications such as endocarditis, osteomyelitis, infected vascular aneurysms, or infected intravascular prostheses.

Herein we describe a patient with polyarthralgia, acute monoarthritis and serological evidence of acute Q fever that was successfully treated with doxycycline.

A 65-year-old man with unremarkable past history apart from hypercholesterolaemia on treatment with rosuvastatin 10 mg/day, was admitted to hospital because of persistent fever of 20 days duration and asthenia. He complained of symmetric polyarthralgia involving the knees, ankles, wrists, hands and shoulders. However, he denied other symptoms. Physical examination disclosed the presence of synovitis in the right knee and a temperature of 37.5°C. The rest of the physical examination was unremarkable. Full blood cell count and hepatic and renal functions tests were normal. The erythrocyte sedimentation rate and the C-reactive protein were increased (46 mm/1st hour and 23 mg/l, respectively) and the rheumatoid factor was negative.

Serological tests for syphilis, parvovirus B19, Epstein-Barr virus, and hepatitis B and C viruses were negative. Chest radiograph was also normal. However, serology for *Coxiella burnetii* (immunofluorescence assay) was positive; phase II IgG positive

Table I. Description of cases of acute Q fever presenting with arthritis.

Reference	Year of Publication	Authors	Type of arthritis	Location
(7)	1983	Blanch <i>et al.</i>	Oligoarthritis	Ankles
(9)	1989	Raoult <i>et al.</i>	Monoarthritis	Hip (2 cases)
(8)	1992	Molina-Boix <i>et al.</i>	Monoarthritis	Knee
(10)	1992	Perez Ortola <i>et al.</i>	Poliarthritis	Knees, ankles, wrists
(2)	1993	Chakravarty <i>et al.</i>	Poliarthritis	Knees, ankles, wrists
(4)	2000	Gonzalez-Gay <i>et al.</i>	Monoarthritis	Knee
(6)	2003	Bolaños <i>et al.</i>	Arthritis	Not reported
(5)	2005	Aguilar Garcia <i>et al.</i>	Oligoarthritis	Ankles, wrist
(11)	2012	Rozenal <i>et al.</i>	Poliarthritis	Not reported
Present case	2013	Ortiz-Sanjuán <i>et al.</i>	Monoarthritis	Knee

at 1/320 and IgM negative. Therapy with doxycycline (100 mg/ bid) was given for 14 days. Following this treatment the patient experienced a rapid improvement of the symptoms. In a further analysis performed 1 month later, the serology for *Coxiella burnetii* showed the following results: phase II IgG negative (<1/80) and IgM negative. At that time the patient was asymptomatic. This report describes a case of Q fever presenting with acute monoarthritis. In this case serological testing allowed making an early diagnosis of the disease. With respect to this, presence of IgG >1/128 and/or IgM >1/32 titers by immunofluorescence assay or the seroconversion is required for the diagnosis of acute Q fever (3).

In acute Q fever, arthralgia is a common symptom. However, arthritis as presenting manifestation of acute Q fever has not commonly been reported. In this regard, a PubMed-National US Library database search only disclosed 10 previous cases of arthritis in patients with acute Q fever (Table I) (2, 4-11). Four of them presented as monoarthritis (involving the hip or the knee). Direct infection was confirmed by immunofluorescence in the synovial fluid in only 1 of the patients presenting with arthritis (8).

In conclusion, the present case reinforces the need of keeping in mind the possibility of acute Q fever in a patient presenting with polyarthralgia and acute arthritis. In cases like this, serological tests may be useful to make a diagnosis of acute Q fever. Because of that, in patients with polyarthralgia and acute arthritis of unknown etiology from endemic areas for Q fever, even when pulmonary and hepatic findings are absent, serological testing for Q fever should be considered.

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