

- saludPublica/ccayes/alertasActual/nCov-China/documentos/ITCoronavirus.pdf [Accessed 4 September 2020].
- Linares M, Pérez R, Romanyk J, Pérez F, Gómez-Herruz P, Arroyo T, et al. Panbio antigen rapid test is reliable to diagnose SARS-CoV-2 infection in the first 7 days after the onset of symptoms. medRxiv. 2020. <http://dx.doi.org/10.1101/2020.09.20.20198192>.
 - Lambert-Niclot S, Cuffel A, Le Pape S, Vauloup-Fellous C, Morand-Joubert L, Roque-Afonso M, et al., on behalf of the AP-HP/Universities/INSERM COVID-19 Research Collaboration. Evaluation of a rapid diagnostic assay for detection of SARS-CoV-2 antigen in nasopharyngeal swabs. J Clin Microbiol. 2020;58:1–2.
 - Mina MJ, Parker R, Larremore DB. Rethinking Covid-19 test sensitivity – a strategy for containment. N Engl J Med. 2020. <http://dx.doi.org/10.1056/NEJMp2025631>.
 - Larremore DB, Wilder B, Lester E, Shehata S, Burke JM, Hay JA, et al. Test sensitivity is secondary to frequency and turnaround time for COVID-19 screening. Sci Adv. 2020;7:eabd5393. <http://dx.doi.org/10.1126/sciadv.abd5393>.

Mercedes Domínguez Fernández^{a,*},
 María Fernanda Peña Rodríguez^b, Fernando Lamelo Alfonsín^a,
 Germán Bou Arévalo^b

^a Unidad de Coordinación y Apoyo Asistencial a Residencias Sociosanitarias del Área Sanitaria de A Coruña y Cee, Hospitalización a domicilio, Complejo Hospitalario Universitario A Coruña, A Coruña, Spain
^b Servicio de Microbiología, Complejo Hospitalario Universitario de A Coruña, A Coruña, Spain

* Corresponding author.
 E-mail address: Mercedes.Dominguez.Fernandez@sergas.es (M. Domínguez Fernández).

<https://doi.org/10.1016/j.eimce.2021.10.002>
 2529-993X/ © 2021 Sociedad Española de Enfermedades Infecciosas y Microbiología Clínica. Published by Elsevier España, S.L.U. All rights reserved.

Cardiac tamponade secondary to acute Q fever^{*}



Taponamiento cardíaco secundario a fiebre Q aguda

Dear Editor,

Q fever, described in 1935 by Derrick,¹ is a zoonosis with worldwide distribution, with an incidence of three cases per 100,000 inhabitants/year. It is caused by *Coxiella burnetii*, a small gram-negative intracellular coccobacillus, resistant to heat and desiccation, which explains its ability to withstand adverse environmental conditions. Domestic ruminants, sheep and goats, are considered the main reservoir of the bacteria and inhalation is its main route of transmission. On rare occasions, cases of infection have been reported after the consumption of unpasteurised and contaminated dairy products.²

We present the case of a young woman with an unusual presentation of acute Q fever, diagnosed with acute pericarditis with cardiac tamponade and liver damage.

The patient was a 34-year-old woman of Moroccan origin, with no relevant family or personal history. Epidemiologically, the consumption of unpasteurised dairy products (fresh cow's cheese) was noted. She consulted for progressive dyspnoea with intolerance to decubitus and chest pain in the right hemithorax with pleuritic characteristics of two days evolution. She reported no fever, cold sensations or other symptoms in the clinical history of organs and systems. The physical examination revealed a tendency to arterial hypotension (84/66 mmHg), with an elevated heart rate and jugular venous engorgement. On auscultation, there were no murmurs or friction, although there were symptoms of right pleural effusion. The electrocardiogram showed sinus tachycardia with decreased voltages and electrical alternation. The tests showed raised total bilirubin (1.9 mg/dl; direct 1.18 mg/dl) and transaminases (GOT 392 U/l, GPT 339 U/l), as well as marked elevation of acute phase reactants (CRP 287 mg/dl, procalcitonin 2.21 ng/ml and fibrinogen 455 mg/dl). Brain natriuretic peptide was determined showing figures of 412 pg/ml, as well as ultra-sensitive troponin I, which was normal. A transthoracic echocardiography was carried out that confirmed the presence of severe pericardial effusion with signs of tamponade, performing percutaneous pericardiocentesis with pericardial fluid with characteristics of exudate with neutrophilic predominance and high levels of adenosine deami-

nase (ADA: 40 U/l). Both the cytology and the mycobacteria culture were negative. Viral (parvovirus B19, HBV, HCV, HIV) and bacterial (*Mycoplasma pneumoniae*, *Chlamydia pneumoniae*, *Brucella*) serological tests were performed, all negative except for being positive for antibodies against phase II of *C. burnetii* (1/512) and minimal against phase I (1/64), by indirect immunofluorescence. This was confirmed with a second test, after two weeks, obtaining the same antibody levels against phase II and with no detection of antibodies against phase I. Abdominal ultrasound was performed, which showed no significant alterations. Targeted treatment was established, with doxycycline 200 mg per day for three weeks, with the patient becoming asymptomatic after finishing treatment, with normalisation of transaminases and acute phase reactants, and without segmental alterations, ventricular dysfunction or pericardial effusion on follow-up echocardiography.

Both myocarditis and acute pericarditis are rare manifestations of acute Q fever, reported in less than 1% of all cases.³ In an aetiological analysis of pericardial effusion in 204 patients over four years, it was observed that 10 cases were due to infection by *C. burnetii*.⁴ Continuing with the experience obtained over four more years, a similar aetiological incidence was obtained.⁵ Echocardiographic findings can be nonspecific and range from normal ventricular function to wall motion abnormalities with severe systolic dysfunction.⁶ Patients are considered to have pericarditis due to this pathogen if they show an apparently infectious syndrome; pericardial effusion and an antibody titre consistent with acute Q fever (phase II IgG titre of 200 and IgM titre of 50) is demonstrated.⁷ In those cases where pericardial drainage is performed, the fluid must be analysed by culture and PCR analysis, since it can provide an accurate and fast diagnosis. Díaz-Morant et al. noted that such tests are performed in cases with unsatisfactory evolution, because the incidence is likely to be underestimated.⁸ The treatment of choice is doxycycline 200 mg daily for three weeks.⁹ In patients with a diagnosis of pericarditis or myocarditis, we must always take this pathology into account, although it is infrequent, since the delay in diagnosis and treatment can cause a worsening of morbidity and mortality.

Funding

No funding was received for this study.

Conflicts of interest

The authors declare that they have no conflicts of interest.

^{*} Please cite this article as: Bustos-Merlo A, Rosales-Castillo A, Esteva Fernández D. Taponamiento cardíaco secundario a fiebre Q aguda. Enferm Infecc Microbiol Clin. 2022;40:43–44.

References

- Pérez-Arellano JL, Carranza Rodríguez C, Gutiérrez C, Bolaños Rivero M. Epidemiology of Q fever in Spain (2018). *Rev Esp Quimioter*. 2018;31:386–405.
- Fraile Fariñas MT, Muñoz Collado C. Infection by *Coxiella burnetii* (Q fever). *Enferm Infecc Microbiol Clin*. 2010;28:29–32.
- Melenotte C, Protopopescu C, Million M, Edouard S, Carrieri MP, Eldin C, et al. Clinical features and complications of *Coxiella burnetii* infections from the French National Reference Center for Q fever. *JAMA Netw Open*. 2018;1:e181580.
- Levy PY, Gouriet F, Habib G, Bonnet JL, Raoult D. Diagnosis of *Coxiella burnetii* pericarditis by using a systematic prescription kit in cases of pericardial effusion: an 8-year experience. *Clin Microbiol Infect*. 2009;15:173–5.
- Carrascosa M, Velasco F, Izquierdo R, Salcines-Caviedes JR, Gomez Amigo V, Canga-Villegas A. Acute Q fever myocarditis: thinking about a life-threatening but potentially curable condition. *Int J Cardiol*. 2012;158:17–9.
- Jacobson A, Sutthiwan P. Myocarditis: a rare manifestation of acute Q fever infection. *J Cardiol Cases*. 2019;20:45–8.
- Eldin C, Melenotte C, Mediannikov O, Ghigo E, Million M, Edouard S, et al. From Q fever to *Coxiella burnetii* infection: a paradigm change. *Clin Microbiol Rev*. 2017;30:115–90.
- Díaz-Morant V, Mateo-Sánchez JI, Lara-Fernández A, Cabello-Rueda F. Pleuropericarditis por Fiebre Q. *An Med Interna*. 1995;12:568–9.
- Hartzell JD, Wood-Morris RN, Martinez LJ, Trotta RF. Q fever: epidemiology, diagnosis, and treatment. *Mayo Clin Proc*. 2008;83:574–9.

Antonio Bustos-Merlo, Antonio Rosales-Castillo *,
David Esteva Fernández

Servicio de Medicina Interna, Hospital Universitario Virgen de las Nieves, Granada, Spain

* Corresponding author.

E-mail address: anrocas90@hotmail.com (A. Rosales-Castillo).

<https://doi.org/10.1016/j.eimce.2021.10.003>

2529-993X/ © 2021 Sociedad Española de Enfermedades Infecciosas y Microbiología Clínica. Published by Elsevier España, S.L.U. All rights reserved.

Clinical case report: Not all rickettsiosis are mediterranean spotted fever[☆]



A propósito de un caso: no toda rickettsiosis es fiebre botonosa mediterránea

Rickettsial diseases transmitted by ticks in Spain are usually classified into three groups: Mediterranean button fever (MBF), caused by *Rickettsia conorii* subsp. *conorii*; MBF-like, similar to the MBF but produced by other rickettsiae; and *dermacentor-borne necrosis erythema and lymphadenopathy* (DEBONEL), produced mainly by *Rickettsia slovaca* or other species.^{1–3} Due to their difficult diagnosis, the relationships of the traditionally known rickettsiae are not clearly known. However, new molecular biology techniques have made it possible to identify more species.

We present a case in Madrid of lymphangitis-associated rickettsiosis (LAR), a variant of the MBF-like clinical picture, caused by *rickettsia sibirica mongolitimonae*.

The patient was a five-year-old boy brought to the emergency room for left testicular pain of three days duration. His parents reported a tick bite five days earlier on the scrotum, with the formation of a scab and discharge, as well as a mild fever for two or three days. The family live in a rural area (Illescas) and lately they have observed ticks on their dog. On physical examination,

the patient presented a fever of 38.6 °C and a crusty lesion with surrounding erythema and sublesional swelling, without fluctuation in the scrotum of the left testicle, associated with an ipsilateral inguinal adenopathy, hard, painful on palpation and without erythema (Fig. 1). The blood test showed: C-reactive protein 36.1 mg/l, GOT 68 U/l and GPT 73 U/l.

With the suspicion of a superinfection of the bite, the patient was admitted and treated with intravenous amoxicillin-clavulanate. At 12 h after admission, a generalised, erythematous, maculopapular rash appeared without palmo-plantar involvement. Due to the possibility of rickettsiosis, a short course of intravenous doxycycline was started (2.2 mg/kg/dose every 12 h for 36 h). The fever was controlled in 24 h and the lesions progressively disappeared.

For the aetiological diagnosis, a sample of the crust was collected and sent to the Centro de Investigación Biomédica de la Rioja (CIBIR) [Biomedical Research Centre of La Rioja], where a polymerase chain reaction (PCR) test was carried out. Bands compatible with infection by *Rickettsia* of the group of spotted fevers were detected, using as targets fragments of the *ompA* and *ompB* genes (conventional PCR), and 23S rRNA (real-time PCR). Definitive identification was obtained by molecular sequencing of *ompA* and *ompB* (491 and 464 bp, respectively), which revealed a 100% identity match with *Rickettsia sibirica* subsp. *mongolitimonae*. Serology tests for *Borrelia burgdorferi* and *Rickettsia conorii* were negative.



Fig. 1. Scrotal skin of the left testicle with erythema and a black crusty lesion with lymphangitis and ipsilateral inguinal adenopathy.

[☆] Please cite this article as: Salazar Alarcón E, Guillén-Martín S, Callejas-Caballero I, Valero-Arenas A. A propósito de un caso: no toda rickettsiosis es fiebre botonosa mediterránea. *Enferm Infecc Microbiol Clin*. 2022;40:44–45.