

Lymphocytic ascites with high adenosine deaminase levels secondary to *Chlamydia trachomatis* infection[☆]



Ascitis linfocitaria con niveles elevados de adenosina deaminasa secundaria a infección por *Chlamydia trachomatis*

Chlamydia trachomatis is the leading bacterial cause of sexually transmitted infection (STI) worldwide.¹ The clinical presentation can vary from asymptomatic (the most common) or symptomatic urogenital infections and pelvic inflammatory disease (PID) in women, symptomatic or asymptomatic genital infections in men, to extragenital infections.^{1,2} Urogenital infection by *C. trachomatis* can have serious consequences in women, such as PID, infertility, tubal pregnancy and chronic pelvic pain.¹

A 33-year-old woman with no history of interest attended the emergency department for pain in the lower hemi-abdomen, menstrual irregularity and abdominal distension of several days' duration. The examination showed a distended abdomen, slightly painful in the hypogastrium and right iliac fossa, with an ascitic wave. General lab tests were carried out, which demonstrated: C-reactive protein 41 mg/l, alanine transaminase 72 IU/l, aspartate transaminase 96 IU/l, alkaline phosphatase 59 IU/l and CA-125 299 IU/ml, with the remainder of the biochemistry, coagulation study, blood count, tumour markers and serologies for HIV, syphilis, hepatitis A, B and C viruses, and pregnancy test negative or normal. No induration was evident following the tuberculin test. The ultrasound and CT scan of the abdomen and pelvis showed a right ovary with an image compatible with a haemorrhagic corpus luteum and a moderate volume of free fluid in the abdominal cavity. After 5 days following admission, the patient developed a greater volume of ascitic fluid, so a diagnostic laparoscopy was performed, evidencing a macroscopically clear fluid, a right tube with mild and non-specific inflammatory signs, a right ovary with a corpus luteum and the rest of the cavity without notable features. Right ovarian cystectomy, right salpingectomy, and parietal peritoneum sample taking for cytology and culture were performed.

The pathological anatomy was negative for malignancy in all samples and no granulomas were observed. The study of the ascitic fluid showed 14,000 leukocytes/ml, 75% of them being mononuclear, 9500 red blood cells/ml, 94 mg/dl glucose, LDH 128 IU/l, proteins 7.6 g/dl, albumin 3 g/dl and adenosine deaminase (ADA) 65 IU/l. The conventional culture of the fluid, as well as the PCR for *Mycobacterium tuberculosis* and the specific culture in mycobacterial media were all negative. An endocervical culture (negative) was performed, as well as PCR for *C. trachomatis* with a positive result. PID due to *C. trachomatis* with secondary ascites was diagnosed, so treatment with doxycycline 100 mg/12 h/14 days was started for the patient and her partner. The patient progressively improved in terms of symptomatology, ascites and the CA-125 marker until normalisation at 4 weeks after starting treatment.

PID is an infection of the upper genital tract in women that can occur clinically or subclinically, and whose presentation can

vary from endometritis, salpingitis, oophoritis, peritonitis and perihepatitis (Fitz-Hugh-Curtis syndrome) to tubo-ovarian abscess. The aetiology can also be diverse and is not unique to STIs. Although the finding of small amounts of ascitic fluid in PID is not uncommon, moderate or severe ascites is infrequent.^{3,4}

In the literature we found some cases of lymphocytic peritonitis with high ADA due to PID caused by *C. trachomatis*.^{4,5} A classic work by Runyon found a specificity of 95.4% for peritoneal tuberculosis in ascitic fluids with high ADA, with another case of ascites with high ADA caused by *C. trachomatis*⁶ included in the same study.

Our case highlights the need to include *C. trachomatis* in the differential diagnosis of PID and lymphocytic ascites in young women. The detection of elevated ADA in ascitic fluid may suggest a tuberculous infection, but other infectious causes cannot be ruled out, so a deeper microbiological study should be carried out using specific cultures and molecular biology techniques. If there is still doubt, an abdominal examination should be performed by laparoscopy/laparotomy with sample taking, since the presence of caseating granulomas is the data most indicative of a tuberculous aetiology, while its absence would make this diagnosis less likely, as occurred with our patient.

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