



Fig. 1. Eschar with surrounding erythema on the right leg. Erythematous cord of trunk-like lymphangitis from the eschar to the knee.

parameters, and positive blood cultures.¹ It generally responds to empirical oral antibiotics. Infants and small children may require hospital admission in the case of significant systemic involvement or antibiotic resistance. Further exploratory tests are not usually necessary, unless there is a lack of response or atypical aetiology is suspected.¹

The presence of lymphangitis, fever and an inoculation eschar should make us suspect lymphangitis-associated rickettsiosis (LAR)⁴ and start treatment with doxycycline. LAR do not have a specific clinical-aetiological correlation, and can be caused by different species of *Rickettsiae*.^{5,6} One of these is *R. sibirica mongolitimonae*, which is involved in less than half of the published cases of LAR.^{6,7} This is a rare type of rickettsiosis,⁸ which causes lymphangitis in approximately 35% of cases.⁹ It tends to be transmitted in spring and summer by tick bites of the genera *Rhipicephalus* and *Hyalomma*.⁵ We confirmed a case of lymphangitis due to *R. sibirica mongolitimonae* by PCR analysis of the eschar sample. This technique allows the definitive diagnosis of rickettsiosis with precision,

speed and high sensitivity and specificity.¹⁰ Serology requires 2–3 weeks for seroconversion and shows cross-reactions, as in our case. The existence of cross reactions means that *R. sibirica mongolitimonae* is probably underdiagnosed, not only as a cause of LAR, but also of other types of rickettsiosis, as the microbiological diagnosis is based mainly on serology, and in many cases it is only performed against *R. conorii*.

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Recovery of *Chlamydia trachomatis* and other pathogens in urine from men with sterile pyuria attended in an emergency department[☆]



Recuperación de *Chlamydia trachomatis* y otros patógenos en la orina de varones con piuria estéril atendidos en urgencias

Urinary tract infection is a rare condition in young men with no predisposing factors. In contrast, sexually transmitted infections (STI) are becoming more common and, with many having an acute onset (haematuria, dysuria, haemospermia, testicular inflamma-

tion and/or epididymitis, etc), these patients often seek help from emergency departments. Various studies suggest that STI play a central role in the origin of sterile pyuria in young men^{1,2}, and our aim in this study was to find out if this was true in our environment.

From May 2014 to July 2017, we looked for microorganisms related to STI in samples sent from the Accident and Emergency department (A&E) from men aged 15–59 with sterile pyuria of unknown cause. We used urine samples with >14 leukocytes/ μ l (Sysmex UF-1000i analyser) which had been sent for urine culture and been negative, and the detection of STI-causative pathogens was performed by PCR (STI-7, Seegene, Seoul, South Korea). In cases with severe pyuria, the urine was also spread on chocolate agar (to rule out gonococcus and other bacteria which do not grow in the media usually used for urine culture) and in others, studies were

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Table 1
Microorganisms detected in 92 males aged 15 to 59 with sterile pyuria.

Microorganisms detected ^c	Number	Percentage ^a	Percentage ^b
<i>Chlamydia trachomatis</i>	23	25.0	57.5
<i>Ureaplasma urealyticum</i>	12	13.0	30
<i>Neisseria gonorrhoeae</i>	5	5.4	12.5
<i>Mycoplasma genitalium</i>	4	4.4	10
<i>Haemophilus influenzae</i>	2	2.2	5
Herpes simplex type 1	2	2.2	5
Adenovirus	1	1.1	2.5
<i>Trichomonas vaginalis</i>	1	1.1	2.5
Total	50	—	—

^a Percentage of the 92 cases studied.

^b Percentage of the 40 patients with genitourinary infection.

^c Nine infections were mixed: *C. trachomatis* and *U. urealyticum* (n=3), *C. trachomatis* and *M. genitalium* (n=2), *M. genitalium* and *U. urealyticum* (n=1), *T. vaginalis* and *U. urealyticum* (n=1), *N. gonorrhoeae* and herpes simplex type 1 (n=1), *C. trachomatis*, *U. urealyticum* and *M. genitalium* (n=1).

carried out for herpes simplex (LightMix[®], Roche, Berlin, Germany) and adenovirus (in-house PCR).

We studied the urine of 92 patients with 15 to 6123 leukocytes/ μ l (median: 76). Previously undiagnosed infections were detected in 40 patients (43%) aged from 17 to 59 (median: 32), with a total of 50 genitourinary infection-causing microorganisms, chief amongst which was *Chlamydia trachomatis* (n=23), representing 57.5% of positive cases (Table 1). No urethral exudate samples were collected from any of the patients in A&E. The results were reported to the patients and/or the doctors they had been referred to. Of the 40 patients, 38 were contacted and 28 (70%) attended the microbiology clinic (it was not possible to inform two patients, both with *Ureaplasma urealyticum* infection). New urine samples (first-void urine) were obtained from 27 patients and 22 (79%) had leucocyturia. A urethral swab was obtained from 25 patients, with leukocytes being found in 15 (60%).

Epididymo-orchitis was diagnosed in 22/40 patients (55%). Testicular involvement was detected in 15 of 23 patients infected by *C. trachomatis* and one of the five with gonorrhoea. In two patients (aged 42 and 44), *Haemophilus influenzae* was isolated after spreading their urine samples on chocolate agar (both had been appropriately treated with ciprofloxacin). In the remaining 18/40 patients (45%) the final diagnosis was urethritis (*Chlamydia trachomatis* was involved in eight and gonococcal infection in four). Three of the cases of urethritis were associated with additional clinical conditions: balanopreputial lesions due to herpes simplex type 1; conjunctivitis due to adenovirus; and simultaneous oral and genital primary herpes simplex type 1 infection. A pharyngeal swab was taken from 20 patients, with four (20%) positives (*Neisseria gonorrhoeae* [n=2], *U. urealyticum* [n=1] and adenovirus [n=1]). An anal swab was taken from two patients, with *N. gonorrhoeae* detected in one, and a conjunctival swab was taken from one patient, detecting adenovirus.

As a result of the expanded analysis, changes to treatment were made in 35 patients (88%): 30 patients had an antibiotic replaced, added or withdrawn due to inadequate empirical treatment, and another five not previously treated were prescribed an antibiotic. Ciprofloxacin was the antibiotic most inappropriately prescribed (22 occasions).

In conclusion, the urine collected for urine culture from males aged 15–59 with sterile pyuria treated in Accident and Emergency was very useful for the diagnosis of other previously unsuspected infections, with a yield of 43%. *C. trachomatis* was the most common pathogen (25% of the urine samples studied and 57.5% of those positive). The definitive diagnosis required changes in the treatment of most of the patients with positive results (88%). It is important to remember how uncommon cystitis in young men is without underlying disease and to suspect an STI for the choice of treatment, even if no urethral discharge is observed and prior unprotected sexual relations cannot be confirmed. The microbiological diagnosis provides confirmation of the pathogen and allows changes to be made to the empirical treatment, if necessary, and subsequent and necessary study of sexual contacts. The application of protocols for the empirical treatment of epididymo-orchitis in young patients, covering *C. trachomatis* and gonococcus³, improves therapeutic success.

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Usefulness of point-of-care ultrasonography in the diagnosis and follow-up of acute sinusitis[☆]



Utilidad de la ecografía clínica en el diagnóstico y seguimiento de la sinusitis aguda

Over a number of years now, the introduction of point-of-care ultrasound has become widespread in different medical and surgical specialities. This term refers to an ultrasound performed and interpreted by the doctor responsible for the patient.¹ It is easy

to apply with short learning curves, and allows immediate, concrete clinical information to be obtained.² There is a wide range of recognised applications in the Accident and Emergency Department which offer great benefits in advanced capability for both diagnosis and monitoring of response to therapy.³

We present here the case of a 32-year-old female patient, 13 weeks pregnant, with no relevant previous medical history is presented. She described a one-week history of pain in the right maxillary region, nasal congestion, foul-smelling rhinorrhoea and documented pyrexia of up to 37.9 °C which did not improve despite symptomatic treatment with paracetamol 650 mg/8 h.

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