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Letter to the Editor

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Soft-tissue infection due to *Mycoplasma hominis*

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Sir,

We present the case of 32-year-old black man, attended at our emergency service because of cardiac arrest produced by ventricular fibrillation. The patient was provided advanced life support for more than an hour and was admitted to the intensive care unit of our hospital. In echocardiography a left ventricle severe systolic disfunction was found, without chambers enlargement, nor valvulopathies, nor congenital heart disease features, nor infectious endocarditis signs.

He was born in Guinea Conakry and lived in Spain since 2014 working as farmworker and living in a cottage, at a low income settlement. No consumption of toxic substances or risk habits.

After 30 days of intensive care unit stay, the patient was transferred to the internal medicine ward and developed progressive giant painless subcutaneous soft tissue purulent collections, without fever, erythema, nor otherwise septic or inflammatory signs, but with soft tissue deformity. The purulent collections were located as single giant collections, at the right hand dorsum, and at the anterolateral soft tissue surrounding the left shin (Figure 1), and the right shin.

After a positive culture was obtained, levofloxacin 500 mg q.d. and doxycicline 100 mg b.i.d were prescribed for one month, the right-hand collection was resolved after fine needle aspiration, and surgical drainage was needed for healing the legs collections. Once the severe soft tissue infection was cured, the patient was doing well, able to take care of himself, ate and walked alone, but with a loss of ability and strength in his right hand, and had no heart failure symptoms. An automatic defibrillator was implanted, and the patient was discharged from the hospital after a 105 days hospital stay, with heart failure with reduced ejection fraction standard treatment.

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Fine needle aspiration was made in all the collections, obtaining abundant thick brown pus, that was sent to the microbiology laboratory for staining and cultures (Figure 2).

Gram staining of the right hand dorsum collection showed numerous polymorphonuclear leukocytes and no visible microorganisms. However, 4 days of incubation on blood agar at 35°C under 5% CO_2 resulted in the formation of pinpoint-sized colonies resembling water droplets. These colonies could not be identified by matrix-assisted laser desorption ionization–time of flight mass spectrometry (MALDI-TOF MS) ("no peaks found"). Gram and Ziehl–Nielsen stainings performed on the colonies showed no bacteria. These results led us to suspect *Mycoplasma* spp, and the culture were transferred to Reference Laboratory for ARNr16s PCR and subsequent sequencing, where this microorganism was detected and identified.

Two weeks later collections obtained from the leg were

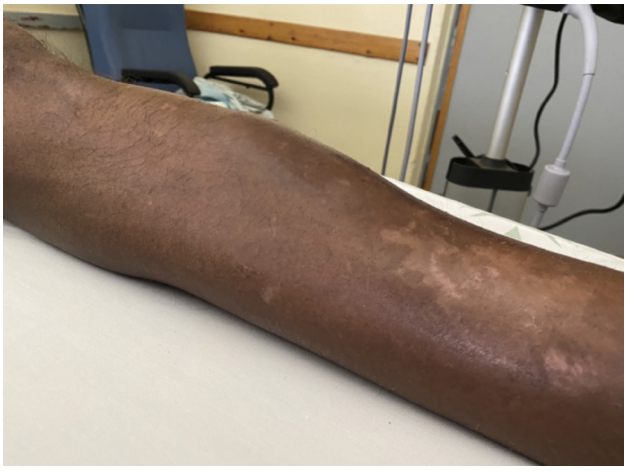

Figure 1 | **Left leg soft tissue collection**

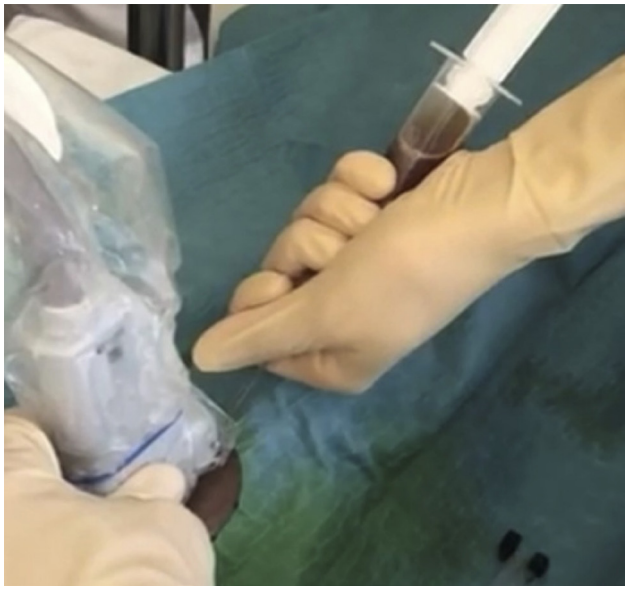

Figure 2 | **Left leg fine needle pus aspiration**

also cultivated but, although the incubation period was prolonged, no bacteria grew; probably due to the stablished antimicrobial therapy with levofloxacin. The sample was sent to Reference Laboratory for ARNr16s PCR and the result was positive to *Mycoplasma hominis*.

Mycoplasma species are smaller than most bacteria and are distinguished by the lack of a cell wall. These microorganisms present fastidious growth requirements for detection under culture conditions. Because of their small cell size, they usually do not even produce turbidity in broth cultures and routine conditions may fail in the isolation of this kind of bacteria.

M. hominis may exist as commensals primarily associated with mucosa in the urogenital tract of healthy humans. It is generally responsible for pelvic inflammatory illnesses, postpartum and neonatal [1], or genital trauma related infections [2]. The infections outside the genitourinary tract occur rarely, but *M. hominis* has been reported to cause different kind of deep tissue infection, including mediastinitis [3], endocarditis [4], abscesses (perirectal [5], perinephric [6], brain [7], periaortic [8], multiple intrabdominal [9]) and bacteremia [1], particularly in postoperative patients [10], transplant patients [8] and immunocompromised patients [11], althoug it may be underestimated.

Although approximately 50% of patients with extragenital *M. hominis* infections has an impaired cell-mediated immune system or hypogammaglobulinemia, our patient had not. He was admitted to the hospital because a ventricular fibrillation cardiac arrest produced by myocarditis. Lately in the intensive care unit he developed multiple infectious complications, among which was the *M. hominis* infection depicted in this paper. Despite the long-term hospitalization and multiple tests performed, no cause of immunosuppression had been detected. It is possible that infection was originated by *M. hominis* bacteriemia and soft tissue seeding, secondary to a minor urethral mucous injury produced by an indwelling urinary bladder catheter, over a previously infected or colonized urethral mucosa. Depending on the selected population, *M. hominis* urogenital infection or colonization, may have an overall prevalence of 10.74% in men, and 8.83 % in women [12], so these individuals may have a possible risk for bacteremia and deep tissue *M. hominis* infections, in case of urethral catheterization, specially in susceptible patients. More studies are needed to clarify these issues.

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CONFLICT OF INTEREST

Authors declare no conflict of interest.

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