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PUBLISHED ABSTRACT

Septic Prepatellar Bursitis due to Mycobacterium Massiliense

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Keywords: Mycobacterium massiliense; atypical mycobacteria; prepatellar bursitis

Background

A man in his forties presented with pain, erythema, edema of his left knee. Four months prior to admission, patient suffered a left Achilles tendon rupture and was using an immobilization boot for 2 months. During that time patient had not noted any fever, chills or constitutional symptoms, but after the boot was removed, he was diagnosed with left knee bursitis and underwent drainage three times as outpatient with negative fluid cultures and with intra-articular steroids injection. Additionally patient was treated with oral doxycyline 100 mg every 12 hours for 5 days without clinical improvement. His past medical history was significant for hypertension, hyperlipidemia and obstructive sleep apnea. Patient had a past surgical history of inguinal hernia repair and septoplasty. Patient had no known allergies. His social history was negative for smoking, alcohol or substance abuse. Patient worked in an office-based job, had a dog at home and had travelled to Puerto Rico 3 weeks prior to his admission.

Methods

The patient was well-appearing. His blood pressure on admission was 125/71 mm Hg, pulse 87 beats per minute, temperature 98.9°F (37.1°C), and respirations 18 breaths per minute. His physical exam was significant for erythema, mild tenderness to palpation and edema of left knee and distinct area of fluctuance above patella with areas of skin desquamation (**Figure 1**). The remaining physical exam was normal. The routine laboratory tests were significant for a white blood cell count of 10.7 K/UL (4.5–11 K/UL), erythrocyte sedimentation rate of 17 mm/hr (0–13 mm/hr) and C-reactive protein of 9.47 mg/l (normal limit < 5.1 mg/l). Remaining of laboratory values were within normal limits. Chest x-ray was clear and X-ray of left knee demonstrated findings of prepatellar bursal collection (**Table 1**).

Results

Patient underwent left knee incision and drainage, irrigation and prepatellar bursa debridement (**Figure 2**). Fluid and tissue gram stain and bacterial culture were negative. Acid-fast bacilli stain was positive and culture subsequently grew Mycobacterium massiliense. Patient was started on oral azithromycin 500 mg daily, intravenous (iv) amikacin

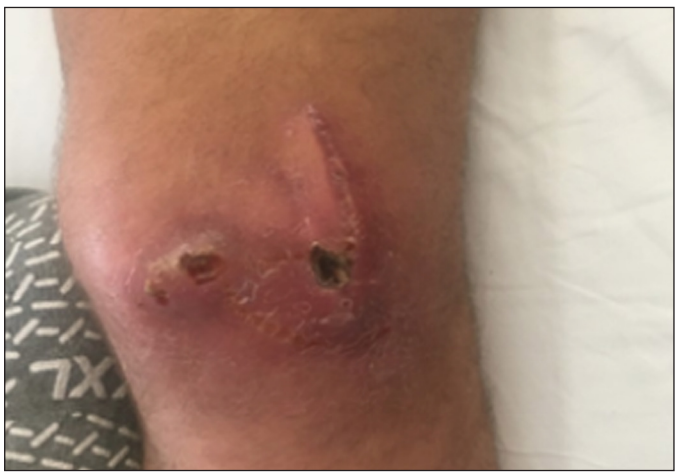

Figure 1: Clinical appearance of left knee.

Table 1: Pertinent Labs and Imaging.

WBC	10.7 K/UL
Hb	15.3 G/DL
Hct	45.4%
Plt	174 K/UL
ESR	17 MM/HR
C – RP	9.47 MG/L
Urea Nitrogen	26 MG/DL
Creatinine	1.34 MG/DL
AST	32 IU/L
ALT	24 IU/L
ALP	70 IU/L
Tbil	0.5 MG/DL

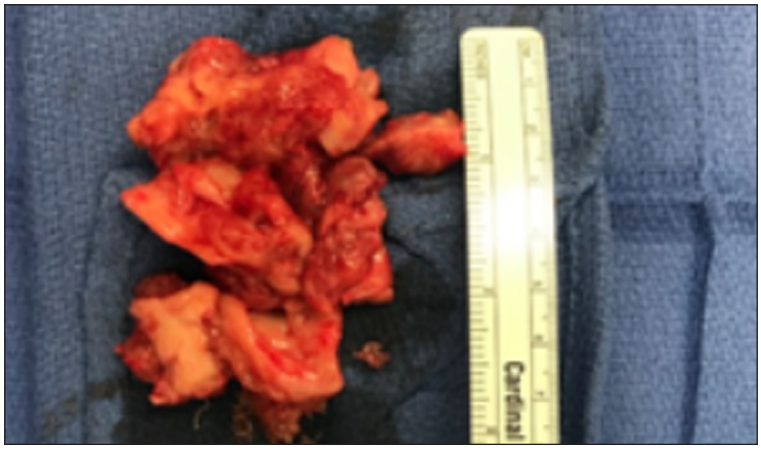

Figure 2: Left bursa under debridement.

15 mg/kg three times per week, and intravenous imipenem 750 mg every 8 hours for a total duration of 6 months. After the first two months of treatment, iv amikacin was discontinued and patient was started on oral clofazimine 100 mg daily.

Conclusions

Mycobacterium massiliense (M.massiliense) belongs to the rapid growing non-tuberculous mycobacteria. Initial isolates were recovered from sputum and BAL from a patient in Marseille, France. M. massiliense was originally classified in the Mycobacterium abscessus-chelonae complex sharing an identical 16S rRNA sequence with M.abscessus. Soft tissue infections associated with trauma and injection in immunocompetent patients have markedly increased. M.massiliense represents an emerging pathogen in a variety of clinical entities including ocular infections, otitis, lymphadenitis, arthritis, osteomyelitis, and prosthetic valve endocarditis and it is mostly associated with environmental exposure, contaminated materials, or invasive procedures. M.massiliense can be intrinsically resistant to several antibiotics, thus requiring prolonged treatment with use of multiple antimicrobial agents. Therapeutic options are still under investigation. The preferred regimen consists of macrolide-based antibiotic therapy combined with intravenous amikacin and cefoxitin or imipenem, based on the results of drug susceptibility testing. The total duration of treatment is usually 4–6 months with at least 2 weeks of parenteral regimen. Surgical debridement remains an important element of successful therapy especially for extensive disease, necrosis, or abscesses. Early clinical suspicion and microbiological diagnosis are key factors in reducing morbidity of patients with M.massiliense infection.

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