

Three Cases of Panniculitis due to *Mycobacterium Abscessus* After Mesotherapy

Tres Casos de Panniculitis por *Mycobacterium abscessus* Posmesoterapia

To the Editor:

In February 2009, we diagnosed 3 patients with postmesotherapy infectious granulomatous panniculitis caused by *Mycobacterium abscessus*. Epidemiological research led to the discovery of 12 more cases among 77 patients who had received mesotherapy for cellulitis in the same clinic, and identified contaminated injectable ampules as a possible source of infection.

The cases are presented in Table 1. Three women aged between 39 years and 44 years, 2 of whom were sisters, developed multiple erythematous-violaceous subcutaneous nodules that were painful and fluctuant; some evolved into abscesses, fistulas, and ulcers (Figure 1). The lesions developed on the buttocks and thighs, into which mesotherapy drugs had been injected between 7 days and 20 days previously. Despite the striking appearance of the skin lesions, fever was not present and there were no other associated systemic symptoms. None of the 3 patients had a history of neoplasms nor had they received immunosuppressive therapy. Skin biopsies taken from the 3 patients were sent to the microbiology and pathology departments. Staining for acid-alcohol-fast bacilli (AAFB) (Ziehl-Neelsen) was positive and there were abundant colonies at 4 days in conventional microbiological culture. These were subsequently identified as *M. abscessus* using polymerase chain reaction and DNA sequencing. Histological study showed inflammation of the dermis and hypodermis, with the formation of cavities and abscesses, dense granulation tissue and a histiocytic infiltrate (Figure 2); AAFB staining was negative in the paraffin-embedded material. Additional tests, which included complete blood count, blood and urine biochemistry, human immunodeficiency virus serology, immunoglobulin quantification, chest x-ray, and vestibular function, were normal or negative. Treatment was started with oral clarithromycin and intramuscular amikacin, and kidney and auditory function was monitored. Improvement was slow and some lesions were drained in the first 2 patients. To date, after 4 months of treatment,

residual scarring is still evident and complete healing has not been achieved in any of the patients.

The almost simultaneous diagnosis of these 3 cases of postmesotherapy skin infection by *M. Abscessus* was reported to the health authorities and an epidemiological investigation was started. The mesotherapy technique



Figure 1 Patient 1: A, Erythematous-violaceous nodules on the thighs. B, Abscessed and ulcerated subcutaneous nodules.

Table 1 Summary of the Clinical Findings of 3 Cases of Post-Mesotherapy Panniculitis due to *Mycobacterium abscessus*

Case	Age/Sex	History	Time of Onset	No. Lesions	Location	Treatment
1	44/woman	Hysterectomy	7-20 d	24	Thighs Buttocks	Clarithromycin Amikacin
2	39/woman	Endometriosis; sister of patient 1	10-20 d	10	Thighs Buttocks	Clarithromycin Amikacin
3	44/woman	Allergic rhinitis Depression	15-20 d	14	Thighs	Clarithromycin Amikacin

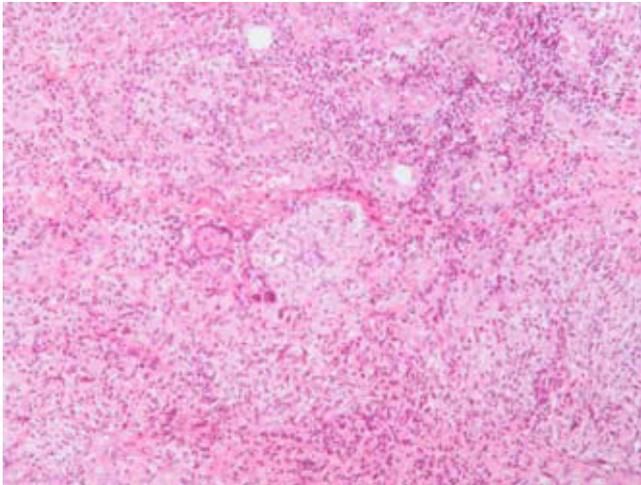


Figure 2 Patient 2: Severe inflammation of the dermis and hypodermis, with the formation of cavities and abscesses, with dense granulation tissue and a histiocytic infiltrate (hematoxylin-eosin, $\times 40$)

was performed in a single center, by a physician using homeopathy ampoules under standard antiseptic conditions. The clinic environment, materials used, and products injected were investigated and examined, and the injectable ampoules were identified as a possible source of infection. The Balearic Department of Health conducted epidemiological surveys of all the people who had received mesotherapy at this center. A total of 77 patients had been treated for cellulitis, and 12 more cases were identified by microbiological culture (15 cases in total).

Mesotherapy is mainly performed to reduce adipose tissue for cosmetic purposes. Its beneficial effect is based on the assumption that an enzymatic or chemical effect of the injected substance will produce rupture of adipocyte membranes, releasing the cytoplasmic fat into the circulation. Cases of nontuberculous mycobacterial infection have been reported as a complication of this technique.^{1,2} Mesotherapy is a very popular procedure in Spain. However, we have not found any previously recorded outbreaks of this infectious complication in the Balearic Islands. A case of noninfectious granulomatous panniculitis has recently been reported that began 1 month after mesotherapy injections, with inflammatory nodules progressing to fistulas, leaving residual scars.³ In our 3 patients, the diagnosis and correct treatment was made possible by appropriate staining and culture techniques of skin samples obtained at the first visit, and also led to the detection of the other 12 cases and elimination of the source of the infection.

Current progress in culture and molecular techniques has led to nearly 200 species of mycobacteria being described. *M. abscessus* is a species that belongs to the group of nonpigmented, rapidly growing mycobacteria. It is widespread and can contaminate surgical material and

injectable medicines.⁴ Opportunistic pathogens require inoculation from an exogenous source, as well as specific immune conditions in the host that facilitate infection.⁵ They are highly resistant to antibiotics and prolonged treatment for up to 6 months is required. Antibigrams should only be used as guides, since the in vitro response frequently does not match in vivo efficacy. In a clinical and microbiological review of 115 clinical cases of rapidly growing mycobacteria conducted at the University of Texas, *M. abscessus* was cultivated in 43 samples (37.4%), mainly from the respiratory tract, but in 6 cases *M. abscessus* and *Mycobacterium fortuitum* were isolated from skin samples. It should be emphasized that *M. abscessus* is one of the most resistant species⁶; it is relatively sensitive to clarithromycin and amikacin, and has intermediate sensitivity to cefoxitin. Monotherapy may be unsuitable, since it seems to promote resistance.

Skin infections due to *M. abscessus* are usually associated with accidental skin lesions or with injections, acupuncture, or catheters.^{7,8} The infection presents clinically with painful or asymptomatic papules or erythematous-violaceous nodules that grow slowly and tend to form chronic abscesses and ulcers,⁹ similar to those presented by our patients. Similarly, it can cause lung, lymphatic, bone, corneal, heart, and ear disease, mainly in immunosuppressed patients. It may also be associated with treatment with biologic agents.¹⁰

In conclusion, infection by this type of nontuberculous mycobacterium should be suspected in chronic inflammatory lesions appearing in areas that have undergone surgical or cosmetic interventions, and that do not respond to standard antibiotic treatment. Its diagnosis will enable the appropriate treatment and the source of contagion to be investigated. Given the vast growth in cosmetic treatments such as mesotherapy, it should be borne in mind they are not risk-free, may have dire consequences, and may leave pronounced and permanent cicatricial sequelae.

Conflict of Interests

The authors declare no conflict of interests.

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Type 1 Leprosy Reaction and Pregnancy

Leprorreacción Tipo 1 y Embarazo

To the Editor:

Despite the considerable influence that pregnancy has on the course of the leprosy, there are very few studies on the subject.

We present the case of a 34-year-old Brazilian woman who had been living in Spain for 3 years. She came to our department with a 2-week history of painful, erythematous lesions on the skin of the face and limbs. She also described swelling and pain in the left foot. She was in good general health and she did not have fever. The patient reported an asymptomatic hypopigmented lesion on the right arm that had been present since childhood and had grown progressively. She had not considered it important until it became erythematous and painful, coinciding with the appearance of the other lesions (Figures 1 and 2).

In the past she had worked with leprosy patients for 4 years. She had 3 children, the youngest of 2 months of age.

On physical examination she presented numerous, well-delimited, infiltrated erythematous plaques on the limbs and face. Their surface was hairless. Some of the lesions had a raised border with a flat and hypopigmented center. The pinna of the right ear was infiltrated and erythematous.

Additional tests (full laboratory workup, radiographs of the chest and left foot, and abdominal ultrasound) were normal. The Mantoux test was negative. Neurological examination revealed a clear decrease in temperature, pain, and touch sensations in the affected areas, but was otherwise normal.

Biopsy of one of the plaques showed a sarcoid-type granulomatous infiltrate affecting the full thickness of the dermis, following the path of the neurovascular bundles towards the surface. Peripheral nerves were not seen. Ziehl-Nielsen stain revealed no acid-alcohol-fast bacilli,



Figure 1 Edematous erythematous plaque on the right cheek and involvement of the pinna of the ear.



Figure 2 Lesion with well-defined borders on the right upper arm and forearm.