

Case Study

The use of Mesotherapy as a risk factor in mycobacterial infections; A report of two cases

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Abstract

Introduction: The use of aesthetic procedures that improve body image is constantly growing, as well as infections associated with them, such as atypical mycobacteriosis. Mesotherapy is a minimally invasive aesthetic procedure that consists of the application of substances that seek to stimulate the dermis and subcutaneous cellular tissue, for the treatment of cellulite and skin rejuvenation.

Materials and Methods: We present the cases of two women with atypical mycobacterial infection associated with the use of mesotherapy administered by personnel untrained for the procedures described here.

Conclusion: Infections caused by atypical mycobacteria have risen in direct proportion to the increase in aesthetic procedures, particularly those performed by non-medical personnel or individuals lacking the proper qualifications.

Introduction

The use of aesthetic procedures that improve body image is constantly growing, as well as infections associated with them, such as atypical mycobacteriosis. Mesotherapy is a minimally invasive aesthetic procedure that consists of the application of substances that seek to stimulate the dermis and subcutaneous cellular tissue, for the treatment of cellulite and skin rejuvenation [1].

Aesthetic medicine has been on the rise in recent years, especially procedures involving the application of various substances: autologous platelet-rich plasma, mesotherapy, botulinum toxin, hyaluronic acid, or biostimulators such as calcium hydroxyapatite, and intradermal or subcutaneous fillers. Furthermore, some products are not approved by health authorities and lack registration. These procedures are not always performed following safety and hygiene standards; in fact, they are sometimes carried out by personnel outside the healthcare field, which can lead to adverse reactions, including infections caused by nontuberculous mycobacteria [2].

Mesotherapy is sometimes responsible for dermal and subcutaneous infections caused by nontuberculous mycobacteria. *Mycobacterium che-*

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lonae, *M. abscessus*, and *M. fortuitum* are usually involved [3].

The published cases are from countries where mesotherapy is popular, primarily France, Spain, and Latin America. We emphasize the need to strengthen infection controls and safety standards in cosmetic surgery centers to reduce the incidence of these procedure-related side effects [4].

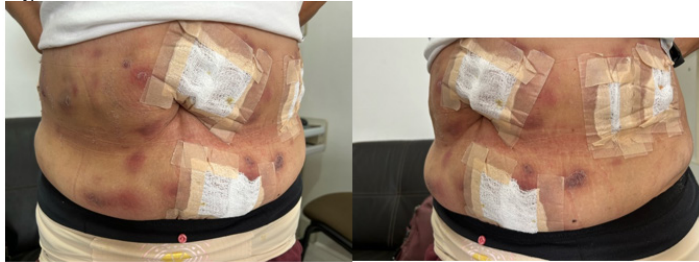
Mesotherapy was first introduced in France in 1952, consisting of an injection of highly diluted drugs and different substances into the dermis and subcutaneous tissue. It causes both the chemical and physical stimulation of cutaneous mesoderm. Direct injection in involved sites allows lower dosages of drugs to be used. All intravenously injectable drugs may be used, except oily and alcoholic solvents. This technique was originally developed to treat localized pain, vascular and lymphatic disorders, but its use in aesthetic medicine has increased in recent years [4].

Clinical manifestations appear one or two months after the introduction of the microorganism through the cosmetic procedure [5]. The lesions are polymorphic, but can range from erythema, nodules, ulcers, or papules [6].

Clinical Cases

We present the case of two females, originally from and residing in Guadalajara, Jalisco, Mexico, aged 37 and 42. One reported being a housewife, and the other a blacksmith, with no significant past medical history. Patient number one underwent mesotherapy (brand not reported) in the bathroom of the gym where she used to train. One month after the injections, she began to experience edema, localized pain, and the subsequent development of multiple painful nodules in the abdominal area, center, and flanks, along with fistulas that drained abundant seropurulent material. (Figure 1).

Figure 1



The second patient visited a spa where she received a mesotherapy cocktail based on artichoke extract. Three weeks after the procedure, she presented with nonspecific pain. Five days later, she developed some abdominal nodules and an ulcer with a necrotic center in the mesogastrium. (Figure 2). Both patients underwent mycobacterial culture on Lowenstein-Jensen medium and Ziehl-Neelsen staining. The staining revealed to 4 acid-fast bacilli per 100 fields. (Figure 3). Subsequently, some of the seropurulent material was cultured on the medium at 35°C, and after 6 days of incubation, white, creamy, smooth colonies developed. (Figure 4) A second Ziehl-Neelsen stain was performed on the culture, revealing a large number of acid-fast bacilli (figure 5).

Figure 2



Figure 3

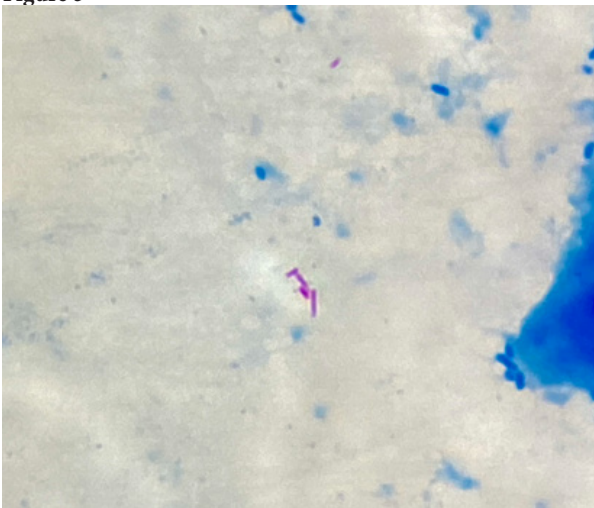


Figure 4

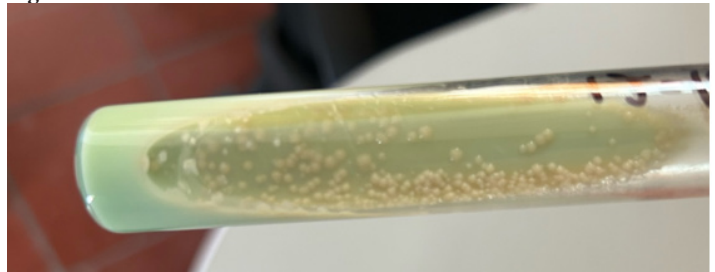
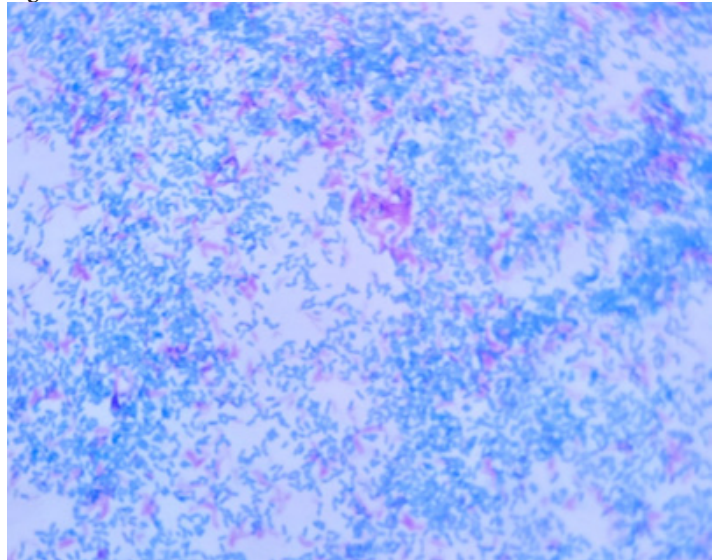


Figure 5



Conclusions

Infections caused by atypical mycobacteria have risen in direct proportion to the increase in aesthetic procedures, particularly those performed by non-medical personnel or individuals lacking the proper qualifications. Nontuberculous mycobacterial (NTM) infections can lead to various clinical manifestations—such as nodules, fistulas, and ulcers—that compromise not only the physical health of patients but also their emotional well-being. Therefore, it is of utmost importance to ensure that anyone performing an aesthetic or surgical procedure holds the appropriate credentials to do so.

REFERENCES

1. Montes, M. V., Eimer, L., Gago, R., Anaya, J., & Busso, C. (2022). Micobacteriosis atípica post mesoterapia [Atypical mycobacteriosis post mesotherapy]. *Medicina*. 82: 951–954.
2. Schcolnik-Cabrera A, Vega-Memije E, Hernández-Castro R, et al. (2019) El costo de la belleza: Comunicación de seis casos clínicos con infección por micobacterias atípicas secundario a inyecciones intradérmicas y reacción a un dermoimplante de origen desconocido. *Rev Chilena Infectol*. 36: 778-783. <https://dx.doi.org/10.4067/S0716-10182019000600778>
3. Stefano V, Cristina B. S, Marco C, Gianluca N, Raffaele G. (2020). Skin infections by *Mycobacterium chelonae* following mesotherapy: A report of two cases and review of the literature. *Journal of Cosmetic Dermatology* Volume 19, Issue 8 pp. 1915-1917. <https://doi.org/10.1111/jocd.13441>
4. Praneer W.P., Rattanakaemakorn S.T., Vasanop V. (2011). Cutaneous *Mycobacterium abscessus* Infection Associated with Mesotherapy Injection Case Rep Dermatol. 3: 37–41 DOI: 10.1159/000324766
5. Valdés F, Cid A. Micobacterias atípicas. *Actas Dermosifilogr* 2004; 95: 331-357. [https://doi.org/10.1016/S0001-7310\(04\)76833-7](https://doi.org/10.1016/S0001-7310(04)76833-7)
6. Wertman R, Miller M, Groben P, et al. (2011) *Mycobacterium bol-*

letii/Mycobacterium massiliense furunculosis associated with pedicure footbaths. Arch Dermatol 2011; 147:454-458. <https://doi.org/10.1001/archdermatol.58>

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