Mycobacterium abscessus is a rare, non-tuberculous mycobacterium discovered as a human pathogen in 1953. Its name reflects its capability of generating subacute cutaneous infections with the formation of fistulas and subcutaneous abscesses, usually secondary to invasive cosmetic procedures.

We present 2 cases of M. abscessus infections secondary to lipotransfer in breast surgery. These patients were admitted to Cruces University Hospital (Spain) for diagnosis and treatment. The aim of our report was to illustrate the presentation of this rare complication, as well as the diagnosis, therapeutic management, and strategies available to prevent its transmission.

**CASE REPORT**

**CASE 1**

A 66-year-old woman underwent surgery to treat scar contracture resulting from a previous conservative oncologic surgery and adjuvant radiotherapy on her left breast in a Peruvian private center. A lipotransfer was performed, with the abdomen as the donor site. The therapeutic regimen used was amikacin (1 g/24 h) + tigecycline (50 mg/12 h). In case 1, we performed a simple mastectomy, and in case 2, periodical ultrasound-guided drainages were performed as additional procedures. To our knowledge, these are the first 2 cases that describe an infection secondary to breast lipotransfer. The aim of our report was to illustrate the presentation, diagnosis, therapeutic management, and strategies available to prevent this complication.

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with an abscess and fistula on her right lower abdominal quadrant, the donor site for the lipotransfer. Drainage and fistulectomy were performed, and the same antibiotic treatment was administered for a further 6 weeks. To date, the patient remains asymptomatic.

CASE 2

A 29-year-old woman was admitted to our department with multiple subacute abscesses and fistulas on both breasts and in the abdominal wall (Fig. 4). The patient had undergone a cosmetic breast augmentation with lipotransfer using donor abdominal fat; this surgery was performed 2 months ago at the same clinic as the patient in case 1, only 1 week later. The patient had undergone a cosmetic breast augmentation with lipotransfer using donor abdominal fat two months ago. This surgery was performed at the same clinic as the patient in case one, only 1 week later. Wound biopsy was performed, and microbiological analysis disclosed the same pathogen as in case 1. She underwent 3 months of the same antibiotic treatment. Periodical ultrasound-guided drainage of the collections was performed to avoid radical surgery in a young patient. To date, the patient remains asymptomatic.

DISCUSSION

*M. abscessus* is an emerging pathogen usually associated with chronic pulmonary infections in cystic fibrosis.
patients. The second most frequent infection sites are the skin and the subcutaneous tissue. Most of the cutaneous infections described in the literature occur secondary to a cosmetic procedure. M. abscessus infections related to breast prosthetic augmentation, breast reduction, liposuction, body-contour surgery, rhinoplasty, and blepharoplasty have been described. To our knowledge, these are the first 2 cases that describe infection secondary to breast lipotransfer.

This complication should be suspected when facing a case of subacute cutaneous ulcers, fistulas, or abscesses with negative surface culture. Particular attention should be paid after surgeries are performed in a developing country in the context of medical tourism. Symptoms usually start between 3 weeks and 2 months postsurgery. Once suspected, a wound biopsy should be taken and cultured in a Löwenstein-Jensen medium. This pathogen is a rapidly growing mycobacterium; therefore, results may be obtained after 2–5 days. Once the diagnosis is determined, antibiotic therapy should be started. However, M. abscessus is resistant to most antibiotics because of its hydrophobic cell wall, biofilm generation, resistance genes horizontally transferred from pseudomonads and streptomyces, and constitutive genes that code proteins such as β-lactamase and aminoglycoside phosphotransferase. The most effective drugs used in vitro are amikacin, ceftazidim, and imipenem. Although clarithromycin was previously considered as the first-line therapy, most strains now have inducible resistance genes against it. Currently, there is no strong evidence demonstrating in vivo susceptibility in cases of extrapulmonary infection. Based on the evidence from case reports, a combined therapy of clarithromycin, amikacin, and another intravenous antibiotic is recommended. In any case, drug selection should be guided by a susceptibility test. There is no clear consensus about the treatment duration, but it is recommended to maintain a combined treatment for 2 to 6 months. Nevertheless, medical therapy is not enough, and it is usually necessary to perform any kind of surgical debridement or drainage to achieve complete resolution. We did not use macrolides, as our strain was resistant.

In most cases, tap water serves as the contamination source when it is used to clean surgical instruments or the skin of the patients. M. abscessus can be resistant to the treatment of water with chlorine and to usual chemical sterilization methods like glutaraldehyde usage. Once a case or outbreak is detected, the Petroff method should be used to test contamination as described by Guimarães et al. The tap water system should be reviewed and the filters should be changed to those with a pore size of 0.2 μm. A chemical sterilization system such as 0.2% peracetic acid is also safe. Physical sterilizing methods are effective. Before any invasive procedure, the skin must be disinfected using a combination of alcohol and iodine, which is the most effective antiseptic solution.

CONCLUSIONS

M. abscessus infection is a rare but devastating complication in aesthetic surgery. Its atypical presentation and antibiotic-resistant nature make it a diagnostic and therapeutic challenge. Aggressive surgical debridement and prolonged antibiotic therapy are critical. Once an outbreak is detected, contamination source must be sterilized correctly using the most appropriate method.