Multi-Drug Resistant Infection of Buttocks with Mycobacterium Abscessus: A Severe Complication of Brazilian Butt Lift

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Abstract

There were 20,673 Buttock Augmentations or Brazilian Butt Lifts (BBL) done in 2016, a 2-fold increase compared to the 3 years prior. Infection is a serious complication. One organism identified in lipotourism patients is nosocomial rapidly growing non-tuberculosis Mycobacteria (RG-NTM). We present a case of necrotizing pan-resistant RG-NTM infection following a domestic BBL requiring an intensive care unit (ICU) admission, prolonged hospital stay, extensive surgical debridement and extended need for systemic antibiotics.

The patient is a 27 year old female who received a BBL with autologous fat grafting in Miami, FL on March 16, 2017. She developed post-operative buttock infection. She failed outpatient treatment, was referred to our burn ICU, and was diagnosed with a necrotizing infection. She underwent serial excisions, negative pressure therapy, and complicated wound care. Diagnosis of M. abscessus was made. She was started on an experimental trial of antibiotics, and required greater than 2 months of multi-disciplinary, ICU care. She was discharged home with wound care and administration of IV antibiotics of 6-12 months.

The estimated cost of a mycobacterial infection after a cosmetic procedure to be $96,949.81. After correct diagnosis, mainstay of management is surgical debridement and prolonged antibiotics. M. Abscessus has the reputation of the most virulent and drug-resistant member of RGM group and little literature is available to support definitive treatment. In our case there was a positive outcome, but proves the need for further investigation.

As increasing infections from lipotourism, or in our case from a domestic procedure, present, prevention, early recognition, and effective treatment are important. We use our case to demonstrate the need for investigation of source control versus systemic antibiotics for adequate treatment.
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Introduction
Buttock augmentation is an increasingly popular cosmetic procedure. There were 287,728 buttock augmentation procedures in 2018 alone, which is a 5-fold increase compared to just 4 years prior. The Brazilian Butt Lift (BBL) is a method of gluteal augmentation popularized by Japanese prostitutes as a way to contour their buttocks. This procedure, similar to other buttock augmentation techniques, involves an incision in the infracristal area. This is generally preferred for the inferior implant due to better contour control and lower complication rates. BBL complications include infection (2%), seroma, and fat infection, but these are rare. Due to the low risk of infection, there is a more liberal approach to the treatment. Although, with growing recognition there are current reported cases of bacterial infection and abscess formation. These infections can be caused by resistant bacteria and can manifest in many different ways, including fever, pain, swelling, and purulence. The surgical site can become discolored and fluctuant. Sepsis can be a serious complication, and severe outcomes can be life-threatening. This case report describes a unique and serious infection involving M. abscessus, a mycobacterial species that is increasingly resistant to conventional antibiotics.

Case Presentation
The patient, a 35-year-old female, underwent her first Brazilian Butt Lift on June 25, 2017. The procedure was performed by a well-known, board-certified surgeon at a high-volume facility. The patient presented with the typical signs and symptoms of an infected buttock augmentation: fever, pain, swelling, and serosanguineous discharge. The patient was evaluated by the plastic surgery team at our facility over a period of several weeks and was treated with multiple courses of oral and intravenous antibiotics. Despite these interventions, the patient continued to experience pain and swelling, and the infection did not resolve. Further imaging revealed a fluid collection deep within the buttock area, which was thought to be infected. The patient was referred to our infectious disease team for consultation.

Diagnosis
After evaluating the patient's history and clinical presentation, the infectious disease team determined that the infection was likely caused by M. abscessus, a mycobacterial species that is increasingly resistant to conventional antibiotics. The patient was initiated on a multidrug regimen of bismuth, trimethoprim-sulfamethoxazole, and rifampin, in addition to an intravenous regimen of imipenem and ciprofloxacin. This regimen was chosen to target the likely pathogens, including M. abscessus, and to provide adequate coverage for potential opportunistic infections.

Treatment
The patient was admitted to the hospital for intravenous antibiotic therapy and was treated with a multidrug regimen. The patient also underwent several surgical procedures to drain the infected areas and to remove the infected tissue. Despite these interventions, the patient continued to experience pain and swelling, and the infection did not resolve. The patient was eventually discharged and continued to receive intravenous antibiotics at home.

Discussion/Conclusion
M. abscessus has been reported as the cause of infection in a few buttock lift cases. These are a group of acid-fast bacilli that cause pulmonary infection, chronic lymphadenitis, disseminated disease, skin and soft tissue infection. These organisms are ubiquitous in the environment and can be found in water, soil, food, and soil products. Butt augmentation procedures are rising in popularity due to the last decade. It is the preferred procedure to obtain implants accuracy for fewer incidences of complications. However, there have been increasing numbers of developing complications including marginally successful infections and infections of skin flaps. This case report describes a unique and severe infection involving M. abscessus, a mycobacterial species that is increasingly resistant to conventional antibiotics. As our case, M. abscessus causing a devastating and rare complication. Non-sterile water is the number one cause of MRSA and organisms have been associated to the water used to clean the implants. The patient was treated with a multidrug regimen of bismuth, trimethoprim-sulfamethoxazole, and rifampin and another intravenous antibiotic. In our case, the bacteria was resistant to all, and consulting our ID team she started on a clinical trial drug. Unfortunately as well as antibiotic and immunomodulatory therapy, the patient did not respond. The patient was discharged with 3-weeks of ICU care to a nursing home to continue nursing changes and IV antibiotics.

References