



## Case Letter

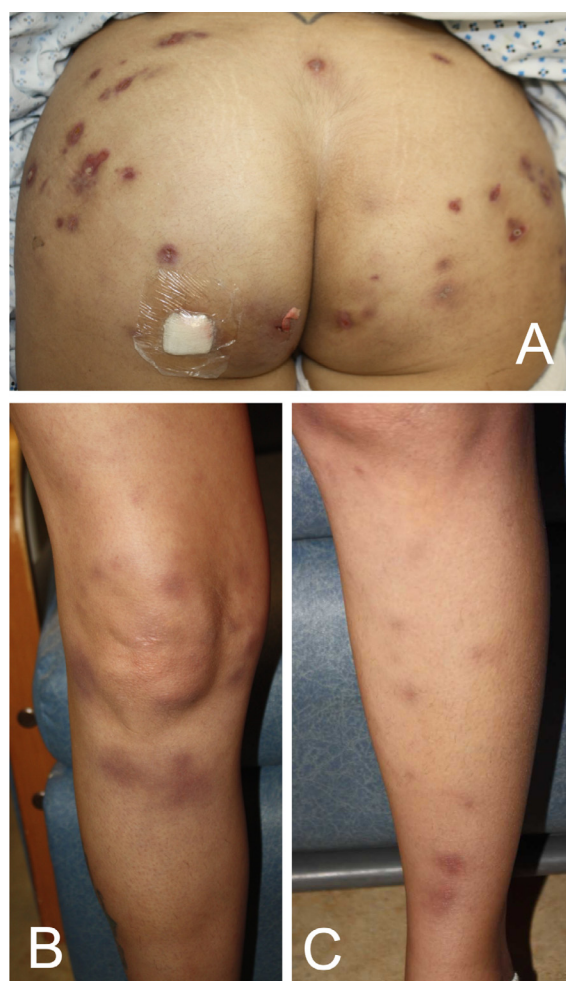
Erythema nodosum due to *Mycobacterium abscessus* infection complicating autologous fat transferChang Su BSE<sup>a</sup>, Shawn E. Cowper MD<sup>a,b</sup>, Sarika Ramachandran MD<sup>a</sup>, Alicia J. Little MD, PhD<sup>a,\*</sup><sup>a</sup> Department of Dermatology, Yale School of Medicine, New Haven, CT, United States<sup>b</sup> Department of Pathology, Yale School of Medicine, New Haven, CT, United States

Dear Editor,

Erythema nodosum (EN) is a common panniculitis that most frequently occurs on the legs, and may be precipitated by medications, autoimmune diseases (including sarcoidosis and inflammatory bowel disease), and infections (including *Streptococcus*, bacterial gastroenteritis, viral upper respiratory infections, coccidiomycosis, and tuberculosis). Here, we report a case of EN due to nontuberculosis mycobacterial infection.

An otherwise healthy 30-year-old woman presented with a 9-week history of recurrent abscesses on the buttocks after an autologous fat transfer procedure for buttock augmentation 11 weeks prior. Upon presentation, she reported tender lesions on the extremities, knee and elbow pain, a 9-pound weight loss over the preceding 2 weeks, and a 1-day history of fever. She had previously been treated with trimethoprim/sulfamethoxazole, prednisone, fluconazole, clindamycin, and amoxicillin/clavulanic acid without improvement and had taken ibuprofen and acetaminophen as needed. Prior bacterial cultures from incision and drainage specimens showed no growth.

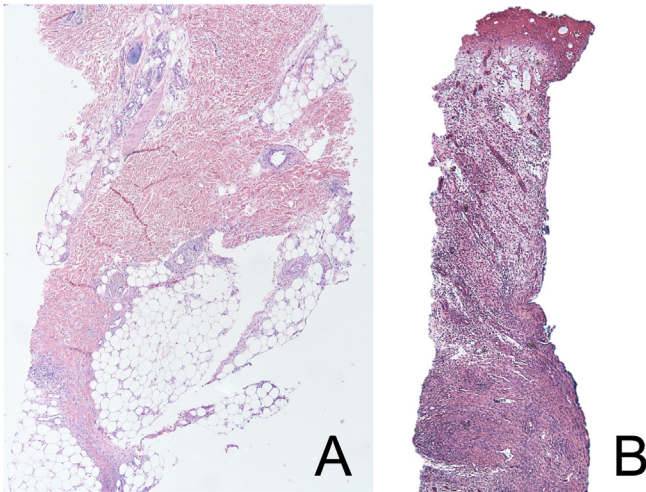
A physical examination revealed approximately fifteen 1 cm pink papulonodules with central ulceration and hyperpigmented rims scattered over the buttocks, most of which had purulent drainage or hemorrhagic crusting, with several coalescing into larger ulcerated nodules (Fig. 1A). On the bilateral lower extremities were a dozen 0.5 to 2 cm tender pink indurated subcutaneous plaques and nodules (Fig. 1B and C), with a few similar nodules on the bilateral forearms. An ultrasound of the buttocks demonstrated fat injection sites containing fluid with hyperemia and internal debris. Punch biopsy of a tender pink subcutaneous nodule on the thigh showed fibrous septal thickening in the fat associated with collections of histiocytes and multinucleated giant cells (Fig. 2A). Histopathologic examination of a buttock papulonodule demonstrated ulceration with mixed suppurative inflammation (Fig. 2B) and gram-positive clustered organisms that were periodic acid-Schiff, acid-fast bacilli, and Fite negative. A sterile culture of the buttock tissue grew



**Fig. 1.** (A) Ulcerated papulonodules over the buttocks at sites of fat transfer and *M. abscessus* infection; and indurated tender subcutaneous plaques and nodules over the (B) right and (C) left legs.

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**Fig. 2.** Hematoxylin and eosin stain of (A) tender subcutaneous nodule of the thigh showing fibrous septal thickening in the fat associated with collections of histiocytes and multinucleated giant cells (200 $\times$ ). (B) Hematoxylin and eosin stain of ulcerated papulonodule of the buttocks showing ulceration with mixed suppurative inflammation in a granulation tissue-like background (40 $\times$ ).

*Mycobacterium abscessus*, a rapidly growing nontuberculosis mycobacterium (NTM). Blood cultures were negative.

A diagnosis of *Mycobacterium abscessus* buttock infection complicated by EN was rendered. The patient was initially treated with tigecycline and amikacin, but after antibiotic susceptibility testing, she was switched to tedizolid, amikacin, and azithromycin with resolution of her EN and buttock abscesses.

This case highlights the clinical presentation of NTM infection, an increasingly common complication of medical/surgical tourism, which can be misdiagnosed due to nonspecific clinical presentations and inadequate culture techniques. Procedures frequently associated with rapid-growing NTM infection include abdominoplasty, liposuction, and cosmetic breast surgeries, which are often performed in developing countries (Singh et al., 2016), although our patient had surgery in the United States. When evaluating for possible NTM infection, a high index of suspicion must be maintained to ensure that tissue, rather than swabs, are sent for culture.

This case also describes the unusual finding of EN in the setting of NTM infection. To our knowledge, this is the first case to describe *M. abscessus* causing EN. A total of six prior cases of EN have been reported in association with NTM, including mycobacterium fortuitum group, mycobacterium avium complex (Budden et al., 2007; Manckoundia et al., 2001), *M. lentiflavum* (Gonzalez-Granado et al., 2009), and *M. marinum* (Garty, 1991).

In conclusion, NTM infection can occur as a result of cosmetic surgery, and EN may be triggered by NTM infection.

#### Conflict of Interest

None.

#### Funding

None.

#### Study Approval

NA.

#### Financial Disclosures

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