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CASE REPORT

Necrotising fasciitis in both calves caused by *Aeromonas caviae* following aesthetic liposuction[☆]

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Summary Liposuction is the most widely performed cosmetic procedure in the world, and is considered safe and without serious complications. However, necrotising fasciitis has been documented as a rare complication following abdomen and thigh liposuction. We present a case of necrotising fasciitis in a 22-year-old female who underwent cosmetic liposuction in both calves. The diagnosis of necrotising fasciitis was delayed, leading to multi-organ dysfunction and skin necrosis with consequent massive skin loss. Non-cosmetic physicians are generally unfamiliar with liposuction-induced complications, and may not suspect necrotising fasciitis due to its rarity. However, awareness of its clinical features is critical since early diagnosis and prompt surgical debridement can prevent significant morbidity and even death.

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Necrotising fasciitis after liposuction is an infrequent but fatal complication, especially if the diagnosis is delayed.

The number of patients undergoing liposuction is increasing worldwide, in part because it is a lucrative procedure for

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physicians, and also because the public perceives it as being minor cosmetic surgery.^{1,2} However, liposuction is increasingly being performed by lesser-trained physicians who have little more experience than a weekend seminar. Hence, the rate of serious complications following liposuction, such as necrotising fasciitis, is likely to increase.

Here, we present the first reported case of a patient with necrotising fasciitis in both calves following liposuction. The case highlights that a high index of suspicion is required for early diagnosis of necrotising fasciitis following liposuction, and that the consequences of a delayed diagnosis are serious.

Case report

A 22-year-old woman was admitted for day surgery into a regional hospital for aesthetic liposuction of both calves. The operation proceeded uneventfully, and the patient was discharged on the same day. On the second postoperative day, the patient was admitted to another secondary hospital due to bilateral calf pain and swelling. All laboratory tests returned normal findings, including erythrocyte sedimentation rate, complete blood count and C-reactive protein level. The patient was discharged. On post-operative day 3, she developed fever, hypotension, oliguria and tachypnoea, and was admitted to our emergency department. She also complained of increasing pain and tenderness in both calves. The calf skin colour was normal despite minimal bullae formation. Magnetic resonance imaging (MRI) revealed inflammation of the superficial fascial planes characterised by the presence of fascial thickening and fluid tracking (Figure 1(A) and (B)). However, these findings compatible with superficial fasciitis can also be frequently associated with cellulitis. Hence, a decision was made to not perform surgical debridement at that stage. The patient then developed multi-organ failure. Urine output and vital signs recovered after 2 days of intensive care. However, high fever ($>38.8^{\circ}\text{C}$) and severe calf pain did not resolve, despite empirical



Figure 2 Appearance of both calves three days after liposuction. Note extensive erythema and skin necrosis.

antibiotic therapy. The skin colour of both calves then turned greyish and haemorrhagic bullae with patches of skin necrosis developed (Figure 2). The patient underwent emergency surgical exploration. At surgery, greyish-yellow and oedematous subcutaneous fatty tissue and superficial fascia were present, and were easily stripped from the underlying fascia using blunt finger dissection. Pus was also observed tracking in the subcutaneous plane about 3 cm beyond the area of the skin necrosis (Figure 3). A diagnosis of necrotising fasciitis of the calf after liposuction was made. Culture reports on wound swabs and debrided tissue specimens indicated an *Aeromonas caviae* infection. This prompted us to immediately change the type of antibiotic being administered to meropenem 0.5 g, three times per day. Repeated wound exploration and debridement for minor amounts of additional necrotic tissue were performed in the subsequent 2 weeks. At 29 days after liposuction and 27 days after initial admission to our hospital, the defects in both calves were covered with split-thickness skin grafts. The grafts healed uneventfully and the patient has continued to improve during 5 months of follow-up.

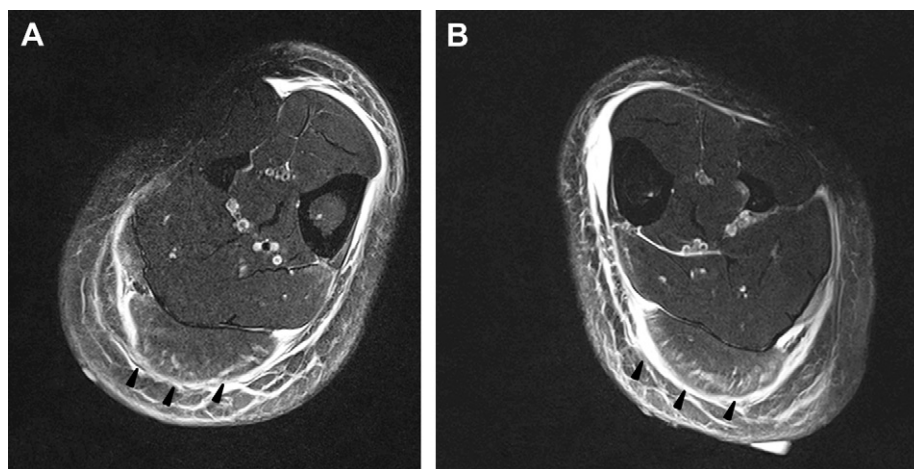


Figure 1 Magnetic resonance (MR) imaging of calves with necrotising fasciitis following liposuction. Axial T2-weighted MR images of both calves (A, right and B, left) showing extensive oedema in the subcutaneous soft tissue and increased signal intensity in the superficial fascial plane adjacent to the musculature (arrowheads).

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