Case Report

Delayed Organized Hematoma Mimicking Seroma after Autologous Fat Transfer to the Male Chest

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Abstract

Autologous fat grafting to the male chest has gained popularity as an adjunct to advanced body contouring for achieving athletic esthetics. While early postoperative hematoma is a recognized complication, delayed organized hematoma presenting several months after surgery remains poorly characterized. Two male patients aged 41 and 44 years underwent chest contouring with combined subpectoral and intramuscular fat grafting as the part of comprehensive body sculpting procedures. Both developed acute unilateral chest swelling between 7 and 12 months postoperatively. Clinical presentation, imaging findings, management strategies, and outcomes were retrospectively reviewed. Both patients presented with rapidly progressive unilateral chest swelling and pain without systemic signs of infection. Imaging revealed complex retropectoral fluid collections with internal debris and fat-related components. Aspirated contents were hemorrhagic–serous. Management consisted of ultrasound-guided aspiration followed by compression therapy. In one case, histopathology demonstrated fat necrosis with xanthomatous inflammatory reaction. No recurrence was observed during 6–12 months of follow-up and esthetic outcomes were preserved in both patients. Delayed organized hematoma represents a rare late complication of male chest fat grafting and may clinically and radiologically mimic seroma. Awareness of this entity facilitates timely diagnosis and minimally invasive management, preventing unnecessary surgical intervention.

Keywords: Autologous fat grafting, delayed hematoma, late complication, male chest contouring, organized hematoma

Introduction

The last decade has seen a marked rise in advanced body contouring procedures utilizing autologous fat grafting such as intramuscular injection to meet the escalating patient demand for high-definition and athletic esthetic outcomes. These approaches, often combined with energy-assisted liposuction modalities allow surgeons to achieve natural volume enhancement in areas including the pectoral region, shoulders, and gluteal area.[1]

Ongoing research continues to evaluate the safety profile and long-term outcomes of these techniques. Reported early complications primarily include bleeding, hematoma, infection, and more severe adverse events such as intramuscular or gluteal fat embolism and pulmonary embolism.[2]

While early complications are reasonably well documented in the fat grafting literature, delayed complications are much less commonly reported. Long-term complications following intramuscular or subpectoral fat grafting remain underreported in the current clinical literature. Delayed organized hematoma presenting months after fat grafting is especially uncommon, with very few cases noted in the literature so far.[3]

Herein, we present two male patients who developed delayed organized hematoma several months after combined subpectoral and intramuscular fat transfer to the chest. This case series highlights an uncommon late complication and discusses potential underlying mechanisms.

Case Reports

Between April 2023 and January 2026, 111 patients (69 male and 42 female) underwent comprehensive body contouring via

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VASER-assisted high-definition liposuction. Fat was harvested from various donor sites, processed by decantation, and grafted into the pectoral regions. Grafting was performed with 50-cc Luer-lock syringes and a 3-mm blunt cannula through an anterior axillary incision. The pectoralis major muscle was manually elevated, and fat was delivered using a retrograde bolus technique. No ultrasound guidance was used, and no closed suction drains were placed. No other complications were observed, making these two cases rare events in our clinical experience.

Case 1

A 41-year-old healthy male underwent VASER-assisted liposuction on January 2024. For pectoral augmentation, 150 cc of fat was placed in the subpectoral plane and 90 cc intramuscularly on the right side, while 150 cc subpectoral and approximately 140 cc intramuscular were injected on the left side.

The immediate postoperative period was uneventful. At 7 months postoperatively, the patient presented to an external facility with acute-onset unilateral swelling and pain in the left chest [Figure 1]. Clinical examination revealed marked asymmetry with fluctuant swelling but no erythema, fever, or signs of infection.

Magnetic resonance imaging (MRI) demonstrated a subpectoral fluid collection consistent with hematoma [Figure 2]. The patient underwent two percutaneous aspirations, which yielded hemorrhagic fluid [Figure 3] and led to the complete resolution of symptoms. No recurrence was observed over the following 12 months of clinical follow-up, and the esthetic chest contour remained preserved without deformity.



Figure 1: 41-year-old healthy male at 7 months postoperatively following comprehensive body contouring. There is a prominent, unilateral enlargement and noticeable asymmetry of the left pectoral region compared to the contralateral side. No overlying skin discoloration or erythema is observed

Case 2

A 44-year-old healthy male underwent VASER-assisted liposuction on April 1, 2023. For pectoral augmentation, a total of 450 cc of fat was injected per side: 300 cc in the retropectoral plane and 150 cc intramuscularly.

The postoperative course was uneventful until approximately 1 year later, when the patient developed acute-onset swelling and pain in the left chest [Figure 4]. Physical examination showed marked unilateral enlargement with fluctuation, but no erythema, fever, or systemic signs of infection.

Ultrasonography showed a 500-mL encapsulated retropectoral collection in the left upper quadrants, with a 4.5-cm maximum depth. Imaging revealed a collection with internal debris, fat-related echogenic components, and a hypoechoic rim, alongside multiple retropectoral and peripheral fat necrosis cysts. No pathological axillary lymphadenopathy was present.

Ultrasound-guided aspiration yielded 490 cc of serosanguineous fluid, managed with compression therapy. Gram stain and aerobic cultures were negative. Histopathology confirmed fat necrosis and xanthomatous inflammation, with no evidence of malignancy.

Complete clinical resolution occurred after this single aspiration session and compression therapy. No recurrence was observed during the subsequent follow-up and the chest contour remained preserved without secondary deformity.

Written informed consent was obtained from the patients for the publication of this case report and accompanying images.

Discussion

Late complications of male chest fat grafting are underreported compared to gluteal or breast augmentation.[4] The delayed emergence of a unilateral chest mass following an otherwise

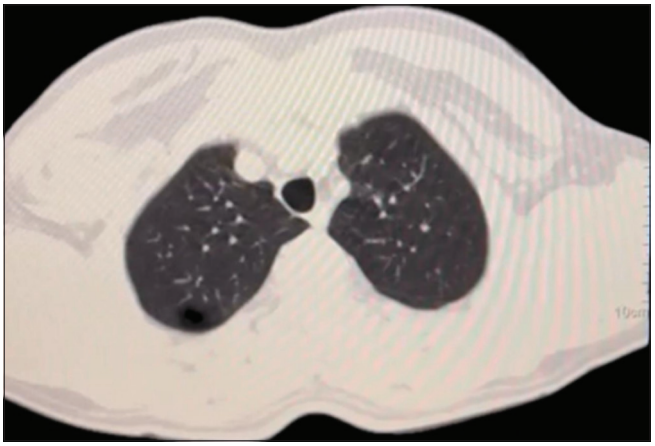


Figure 2: 41-year-old healthy male. Axial computed tomography scan of the chest at the level of the pectoral muscles. A well-defined, hypodense collection is located in the left subpectoral space, causing anterior displacement of the pectoralis major muscle



Figure 3: Hemorrhagic fluid obtained through percutaneous aspiration from the first patient. The syringes are filled with dark, viscous fluid collected 7 months after the initial procedure. Clinical resolution was achieved following two aspiration sessions



Figure 4: A 44-year-old male with acute-onset left chest swelling 1 year after VASER-assisted liposuction and autologous fat transfer. The image demonstrates unilateral enlargement and significant volume increase in the left pectoral area. While the right side remains stable, the left side shows signs of a large encapsulated collection, which was later confirmed to be a delayed organized hematoma

unremarkable recovery typically prompts an initial clinical suspicion of late-onset seroma or localized fat necrosis. Typically, a delayed unilateral chest mass suggests seroma or fat necrosis; however, our cases at 7 and 12 months highlight organized hematoma as a critical diagnostic pitfall. This mimicry often poses a challenge, potentially leading to unnecessary surgical exploration.

Graft volume in the male chest is limited by recipient site pressure. Unlike the compliant female breast, the male pectoral region is confined; 210–230 cc per side likely exceeded tissue compliance. High-volume grafting elevates interstitial pressure above capillary perfusion, inducing ischemia and focal necrosis.[5]

Unlike the static subcutaneous trunk, the pectoralis major provides a dynamic, high-pressure environment for transplanted fat.[6] Long-term MRI shows that controlled, multilayered grafting within volume limits respects pectoral biomechanics, enhancing viability and reducing complications.[7] This viability is further influenced by the continuous movement and compression exerted by the pectoralis major, especially on the dominant side.[8] Unlike intramuscular placement, the subpectoral space acts as a sliding interface where repetitive motion creates higher shear stress, potentially destabilizing the grafted tissue.[6] This interface stress likely triggers microvascular injury in fragile neovessels, inducing chronic low-grade hemorrhage and subsequent delayed hematoma formation.

Xanthomatous reactions and lipid-laden histiocytes characterize chronic fat necrosis. Unlike acute injury with neutrophil infiltration, this response indicates a prolonged inflammatory process where macrophages phagocytose necrotic lipids.[9] Persistent dead space and chest wall micromotion likely delayed the presentation, while coexisting fat necrosis potentially amplified local inflammation and capillary fragility.

Our study has limitations. First, the lack of routine drainage may have influenced initial fluid dynamics; however, Scomacao *et al*. reported no significant difference in complications between drain and no-drain groups.[10] The limited cohort size and lack of real-time pressure data are the inherent constraints. Consequently, asymptomatic collections may have remained undetected during the clinical follow-up.

These represent the first reported cases of delayed organized hematoma following male chest fat grafting. Early detection of this seroma-like complication allows for effective aspiration and compression. This minimally invasive approach avoids unnecessary revision while maintaining optimal esthetic results.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patients have given their consent for their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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