(International Print/Online Journal)

SJIF IMPACT FACTOR: 6.829
PUBMED-National Library of Medicine ID-101739732

ISSN (Print): 2209-2870
ISSN (Online): 2209-2862

International Journal of Medical Science and Current Research (IJMSCR)
Available online at: www.ijmscr.com
Volume 8, Issue 5 , Page No: 292-296
September-October 2025

IJMSCR

Severe Multisystem Complications Following Cosmetic Abdominoplasty and Liposuction: A Case Report

[1]Dr Vishnu S Nair[*] [2]Dr Shiju Stanley,[3]Dr Vyshakan M S, [4]Dr Waheed Misbahudheen, [4]Dr Salma Anwar,[5]Dr Akshai Das,[6]Dr Ahalya Raveendran,[7]Dr Vishnu Prasad, [8]Dr Sameer S N

[1]Junior Resident, [2]Head Of Department Of Emergency Medicine, [3,4,5,]Consultant Department Of Emergency Medicine, [6,7,8]Junior Resident

Ananthapuri Hospitals And Research Institute, Trivandrum

***Corresponding Author:**
Dr. Vishnu S Nair
Junior Resident, Ananthapuri Hospitals And Research Institute, Trivandrum

Type of Publication: Case Report
Conflicts of Interest: Nil

Abstract

Cosmetic surgical procedures such as abdominoplasty and liposuction are increasingly performed worldwide. Although generally considered safe when performed in appropriate settings, severe and life-threatening complications may occur. We report the case of a 31-year-old female who developed pulmonary fat embolism, septic shock, multiorgan dysfunction syndrome (MODS), acute respiratory distress syndrome (ARDS), and subsequent gangrene of extremities following abdominoplasty with 360-degree liposuction. Despite extensive critical care and surgical interventions, the patient experienced prolonged hospitalization, multiple surgeries, and significant morbidity. This case highlights the potential for catastrophic complications after cosmetic procedures and emphasizes the need for early recognition, multidisciplinary care, and awareness of risks.

Keywords: Liposuction, Abdominoplasty, Fat embolism, Sepsis, ARDS, MODS, Gangrene, Case report

Introduction

Cosmetic body contouring procedures, including abdominoplasty and liposuction, are among the most commonly performed elective surgeries worldwide [1]. Although complication rates are reported to be relatively low, major complications such as fat embolism, sepsis, and multiorgan failure have been documented [2,3]. Fat embolism syndrome (FES) is a rare but potentially fatal condition that can occur following trauma or cosmetic liposuction [4]. Infections, including necrotizing fasciitis, are recognized risks in abdominoplasty [5]. We present a rare case of combined pulmonary fat embolism, septic shock, MODS, and ischemic complications following liposuction and abdominoplasty.

Case Presentation

A 31-year-old woman with no known comorbidities underwent abdominoplasty with 360-degree liposuction and tummy tuck at a private cosmetic clinic. Within 24 hours of the procedure, she developed giddiness, abdominal pain, vomiting, and decreased urine output. Initial management at the clinic included intravenous fluids, but her condition deteriorated with progressive breathlessness and oliguria.

She was admitted to a tertiary hospital two days after the cosmetic surgery with severe respiratory distress and shock. At presentation, she was tachypneic, tachycardic, hypotensive, and hypoxemic. She rapidly deteriorated into cardiac arrest but was revived after 2 minutes of cardiopulmonary resuscitation (CPR). She required elective intubation, mechanical ventilation, and vasopressor support with three agents. Investigations revealed elevated inflammatory markers, deranged renal and liver function tests, and

coagulopathy. CT pulmonary angiography showed ARDS with features of pulmonary fat embolism. CECT abdomen demonstrated free fluid collections and suspected intra-abdominal sepsis. She was started on broad-spectrum antibiotics, antifungals, and vasopressors. Echocardiography revealed preserved biventricular function, ruling out stress cardiomyopathy. Nephrology consultation confirmed acute kidney injury requiring continuous renal replacement therapy (CRRT).

Over the following weeks, she required multiple interventions including exploratory laparotomy, repeated abdominal wound debridements, tracheostomy, and prolonged intensive care. Cultures grew Pseudomonas aeruginosa, Enterococcus faecalis, and later Candida auris. She developed bilateral acral gangrene of toes and fingers, likely secondary to vasopressor use and septic emboli. Plastic surgery managed her with repeated debridements, negative pressure wound therapy, and grafting procedures.

She was eventually decannulated from tracheostomy after approximately three weeks of intensive care. Despite clinical stabilization, she required long-term rehabilitation due to persistent gangrene, contractures, and abdominal wall necrosis.

Discussion

Liposuction and abdominoplasty are considered safe in accredited centers; however, mortality rates up to 1 in 5000 have been reported [6]. Pulmonary fat embolism, while rare, is a recognized complication of liposuction due to fat particle entry into systemic circulation [7]. ARDS may develop as part of fat embolism syndrome [8]. In this patient, rapid progression to septic shock and MODS compounded the fat embolism.

Sepsis after abdominoplasty is usually secondary to wound infection, intra-abdominal abscess, or necrotizing fasciitis [9]. In our case, Pseudomonas and Candida auris bloodstream infections complicated recovery. Use of high-dose vasopressors contributed to acral ischemia and gangrene, a known complication in septic shock [10].

Long-term morbidity included abdominal wall necrosis requiring repeated debridement, limb amputations/grafts, and functional disability. Similar 13. cases underscore the need for strict perioperative protocols, sterile environments, and patient counseling regarding risks [11,12].

Conclusion

This case highlights the devastating complications that may follow cosmetic procedures such as liposuction and abdominoplasty. Pulmonary fat embolism, septic shock, and MODS require early recognition, aggressive supportive therapy, and multidisciplinary management. Awareness among both surgeons and patients is crucial, and strict safety protocols must be followed to minimize risks.

References

1. American Society of Plastic Surgeons. 2022 Plastic Surgery Statistics Report. [ASPS website]
2. Matarasso A. Abdominoplasty: current techniques. Plast Reconstr Surg. 2015;135(2):404e–415e.
3. Grazer FM, de Jong RH. Fatal outcomes from liposuction: census survey of cosmetic surgeons. Plast Reconstr Surg. 2000;105(1):436–446.
4. Akhtar S. Fat embolism. Anesthesiol Clin. 2009;27(3):533–550.
5. Hafezi-Nejad N, et al. Infectious complications of cosmetic procedures. Clin Infect Dis. 2017;64(12):1682–1689.
6. Lehnhardt M, et al. Major and lethal complications of liposuction: a review. Plast Reconstr Surg. 2008;121(6):396e–403e.
7. Rohrich RJ, et al. Liposuction. Plast Reconstr Surg. 2016;137(6):1195e–1225e.
8. Mellor A, Soni N. Fat embolism. Anaesthesia. 2001;56(2):145–154.
9. Shermak MA. Wound management in body contouring surgery. Clin Plast Surg. 2014;41(4):777–786.
10. Kornblith LZ, et al. Vasopressor use in septic shock and risk of limb ischemia. J Trauma Acute Care Surg. 2015;79(2):264–270.
11. Swanson E. Prospective study of complications in 360 liposuction. Plast Reconstr Surg Glob Open. 2020;8(3):e2705.
12. Gusenoff JA, et al. Outcomes and complications of body contouring after massive weight loss. Plast Reconstr Surg. 2008;122(1):272–280.

Volume 8, Issue 5; September-October 2025; Page No 292-296

Figure 1: Extensive ecchymotic changes over the upper limb with blistering suggestive of vasopressor-induced ischemia.

Volume 8, Issue 5; September-October 2025; Page No 292-296

Figure 2: Gangrene of toes with clear demarcation line indicating acral ischemia.

Figure 3: Necrotic abdominal wall with extensive bruising and areas of slough following liposuction and sepsis.

Volume 8, Issue 5; September-October 2025; Page No 292-296

Figure 4: Widespread ecchymosis over the abdomen and flanks consistent with septic shock and necrotizing fasciitis.

Volume 8, Issue 5; September-October 2025; Page No 292-296