Abdominoplasty Flap Necrosis and Wound Dehiscence: Complete Closure Without Reoperation

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Abstract

Introduction

According to the America Society of Plastic Surgeons (ASPS), society members performed almost 162,000 abdominoplasty procedures in 2022. This is the third most common cosmetic surgical procedure trailing only liposuction (325,669) and breast augmentation (298,568.) 1 One metanalysis found that the incidence of skin necrosis varies between 3% and 4.4% 2. This is one of several complications that can lead to significant delays in healing and suboptimal aesthetic results. An additional consideration is the ever-important doctor-patient relationship, which may erode following a significant complication of an aesthetic procedure. These situations, as well as patients returning from a "medical tourism" trip, often find themselves without adequate post-operative care. We present a case of a patient who underwent a redo abdominoplasty which resulted in recurrent wound dehiscence and flap necrosis. They ultimately sought out a second opinion for potential non-operative wound closure.

Methods

With the understanding that the patient did not wish to undergo any further major surgical procedures at the time of presentation, our team devised a multimodal wound healing plan and frequent outpatient clinic follow up. Sharp debridement, enzymatic debridement, negative pressure wound therapy (NPWT),animal and human based advanced tissue products, and registered dietician collaboration were among the many advanced modalities utilized.

Results

In the first four weeks of treatment, the wound volume decreased from 111 cm3to 7.8 cm3, or approximately 93% volume reduction. Treatment remains ongoing with the expectation of complete closure within the next 4-8 weeks.

Discussion

There are several reasons why patients elect not to follow up with their original surgeon following a cosmetic surgical complication. Many patients are unable to find another surgeon willing to take on a post-operative complication of a cosmetic procedure while others simply do not wish to undergo further surgery. This case of flap necrosis and wound dehiscence following abdominoplasty demonstrates a potential option for successful closure without reoperation as well as the key role advanced wound centers play in the treatment of these "wound orphans".

Case Presentation

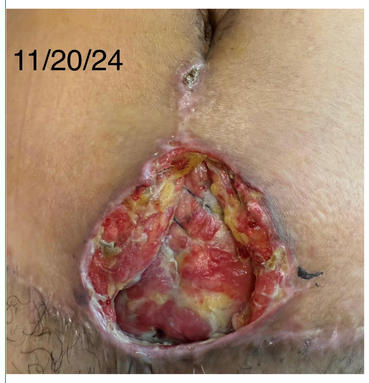
49-year-old female

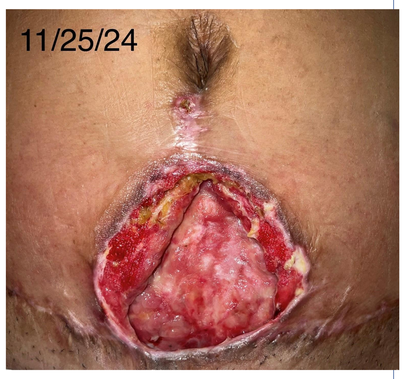
SIGNIFICANT HISTORY:

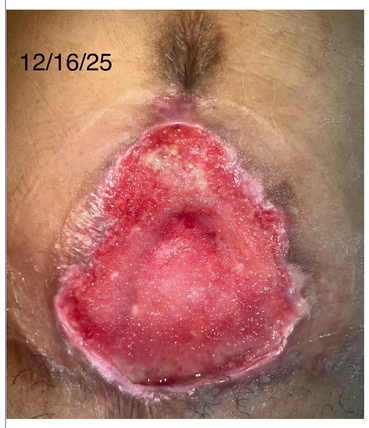
- Fibromyalgia
- Cigarette smoker
- Hypertension
- Obesity

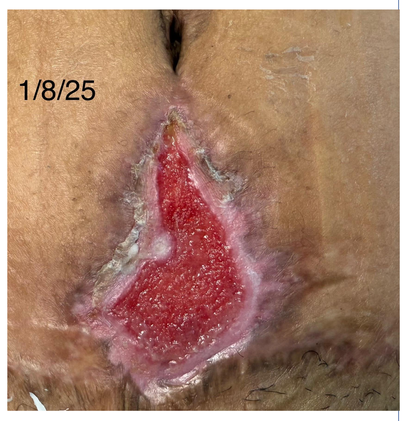
WOUND HISTORY:

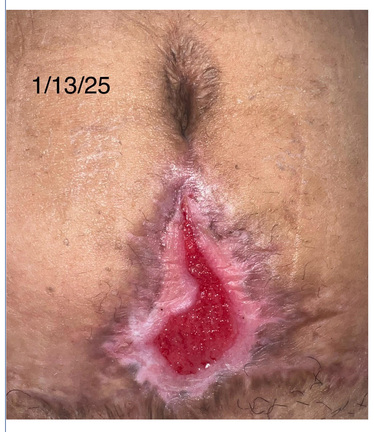
Initial surgery was an abdominoplasty in 2023 complicated by infection and dehiscence with a prolonged course of healing. Patient subsequently underwent revision of the abdominoplasty in 10/2024. This surgery was also complicated by wound dehiscence and flap necrosis for which the patient returned to the operating room for a washout on 11/19/24. Ultimately, the surgeon from an outside facility referred the patient to our center on 11/20/24.

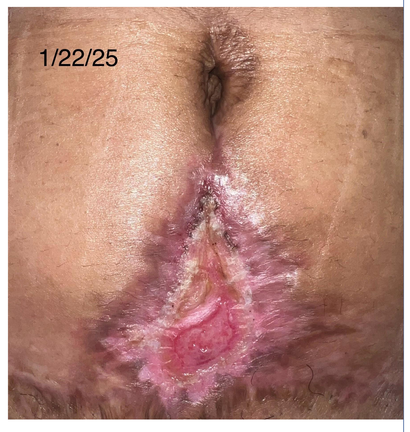








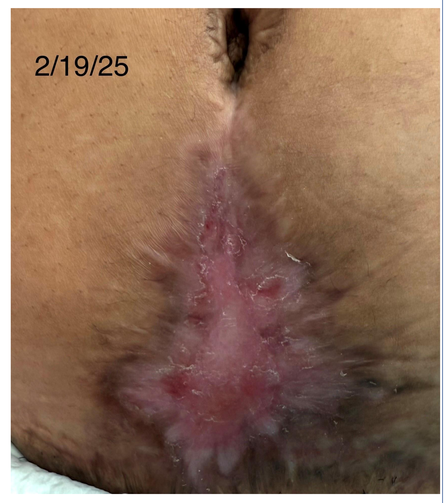




Treatment Course & Discussion

Upon initial evaluation in the wound clinic, Negative Pressure Wound Therapy (NPWT) was initiated with twice weekly changes in clinic. The wound began to respond immediately with a noted decrease in volume and an increase in granulation tissue formation. Non-viable tissue was excised and obsolete PDS suture was removed. Several advanced tissue products were utilized including a bovine collagen / oxidized regenerated cellulose matrix, a porcine extracellular matrix powder, and an allogenic decellularized particulate human placental connective tissue matrix. Patient compliance with twice weekly clinic visits, adherence to registered dietician recommendations, and consistent use of an abdominal binder all played a significant role in achieving complete wound resolution at just under 13 weeks.

The increasing number of aesthetic procedures may lead to an increase in what the authors refer to as "wound orphans": post-operative patients who are unable to find timely or appropriate follow-up when complications arise and/or when the surgeon-patient relationship has eroded. Further investigation into the prevalence of this scenario is warranted and may lead to significant changes in the aesthetic surgery and "medical tourism" industries.



Key Points

- **Complex abdominal wound closure is possible without reoperation**
- **"Wound Orphans" need access to a wound center / advanced modalities following surgical complications**
- **Early initiation of NPWT and consistent use of abdominal binder**
- **Appropriate sharp debridement**

Acknowledgements

We would like to thank the invaluable members of the Miami VA Wound Team, Davis Cheung, RN, CWS, and Theresa Hernandez, RN, CWOCN for their care and expertise.

References

1.Stein MJ, Weissman JP, Harrast J, Rubin JP, Gosain AK, Matarasso A. Clinical Practice Patterns in Abdominoplasty: 16-Year Analysis of Continuous Certification Data from the American Board of Plastic Surgery. Plast Reconstr Surg. 2024 Jan 1;153(1):66-74. doi: 10.1097/PRS.0000000000010500. Epub 2023 Apr 4. PMID: 37010463.

2.Vidal P, Berner JE, Will PA. Managing Complications in Abdominoplasty: A Literature Review. Arch Plast Surg. 2017 Sep;44(5):457-468. doi: 10.5999/aps.2017.44.5.457. Epub 2017 Sep 15. PMID: 28946731; PMCID: PMC5621815.