Negative Pressure Wound Therapy in the Management of Surgical Wound Complications Following Abdominoplasty



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Objective: To report the clinical progression and therapeutic success in managing a case of extensive surgical wound dehiscence following abdominoplasty using Negative Pressure Wound Therapy (NPWT).

Methods/Case report: A 35-year-old female patient, classified as obese grade I, with no known chronic comorbidities, smoking, or alcohol use, underwent umbilical herniorrhaphy, abdominoplasty with rectus diastasis repair, and mastopexy without implants on June 6, 2024. Postoperatively, she developed extensive necrosis in the suprapubic region, associated with significant sero-hematic exudate. Surgical debridement (Figure 1) was performed on July 2, 2024, resulting in a wound measuring 24 × 8.5 cm, exhibiting granulation tissue, necrotic areas, and intense pain upon manipulation. Oral antibiotic therapy was administered for 10 days.



The final scar presented some anticipated deformities but with an appearance better than expected. The patient was referred for evaluation by a plastic surgeon, with scar revision surgery planned after a minimum six-month period post-epithelialization to minimize the risk of further complications. Figure 2 shows the evolution of the lesion during negative pressure therapy and Figure 3, after withdrawal of therapy.



Figure 3 - September 6, 2024

Results: Complete wound closure was achieved within approximately five months (Figure 4). Despite the prolonged healing process—due to the early interruption of HBOT and abandonment of NPWT—the final outcome was positive, with complete wound resolution and no further complications.

Figure 1 - July 2, 2024

Negative Pressure Wound Therapy (NPWT) was initiated on July 4, 2024, combined with Dialkyl Carbamoyl Chloride (DACC) mesh, with a total of nine dressing changes performed until August 30, 2024. Simultaneously, Hyperbaric Oxygen Therapy (HBOT) was started but later discontinued due to a pulmonary thromboembolism diagnosis. After NPWT discontinuation, the patient opted for home wound care using sterile saline solution and gauze dressings, achieving complete epithelialization of the wound by December 2024.



Figure 2 - August 08, 2024



Figure 4 - December 23, 2024

Conclusion: Negative Pressure Wound Therapy proved to be an effective tool in the management of complex surgical wound complications, promoting granulation tissue formation and accelerating the healing process. This case reinforces the importance of early initiation and proper adherence to NPWT protocols to optimize clinical outcomes, even in the presence of therapeutic interruptions.

Keywords: Negative Pressure Wound Therapy; Abdominoplasty; Surgical Dehiscence; Surgical Wound; Complex Wound Healing

I have no conflict of interest

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