

Carbuncle management: Skin sparing saucerization follow by delay primary suturing is new treatment modality

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Introduction

Carbuncles are pus-filled bumps forming a connected area of infection under the skin, typically treated with aggressive surgical debridement and antibiotics. While effective, these treatments often result in long wound healing times and a high tendency for drug resistance development. A newer approach, skin-sparing saucerization, involves excision of the necrotic center and its surrounding cellulitis, followed by delayed primary closure. This case report presents two patients who underwent this technique, highlighting its efficacy in reducing healing time, hospital stay, and improving quality of life.

Case Description

We present a case series of two patients with successful outcomes using these methods.

60 years old Chinese gentleman with known case of diabetes mellitus presented with a two-week history of swelling, multiple puncta, and pus discharge. He had swelling on the right inguinal region (6x4 cm) and 56 years old Chinese female with known case of diabetes mellitus presented with a one-week history of swelling, multiple puncta, and pus discharge. She had swelling on the right flank (4x4 cm). Blood investigation showed leukocytosis for both patients. Diabetes was controlled and covered with cloxacillin 1g dose prior to operation. Then proceeded with skin-sparing saucerization.

Intraoperatively, a longitudinal elliptical incision was made over the area of inflammation to open the carbuncle. The necrotic and infected tissue was completely excised using an undermining technique, leaving behind healthy-looking edges and base. The cavity was packed with povidone-soaked ribbon gauze. Regular dressings were done three times daily, and the patients were discharged the next day with a follow-up scheduled in one week.

At the one-week follow-up, the wounds were clean with no slough, residual pus, or lateral cavitation. The wound base and lateral edges were granulating well, and the induration had resolved by the second week post-saucerization. Delayed primary suturing was performed using interrupted non-absorbable sutures under local anesthesia. Four weeks post delayed primary closure, the wounds were completely healed, and sutures were removed for both cases.



Figure 1: 60 years old patient Figure 2: 56 years old patient

Discussion

Infections of the skin and soft tissues, such as carbuncles, are common and often caused by *Staphylococcus aureus*. Traditional treatments like surgical debridement, incision, drainage, and antibiotics can result in long recovery times and high antibiotic resistance. Surgical debridement, incision, drainage, and antibiotics have historically been the methods of treatment for carbuncles. On the other hand, these treatments may result in extended periods of recuperation and a very high probability of antibiotic resistance taking place. Saucerization, a surgical procedure involving the removal of necrotic tissue, has been a popular surgical approach since before.

Traditional treatments often result in large wounds that heal by secondary intention, which can sometimes result in cosmetically unattractive scars. Newer techniques, like skin-sparing saucerization followed by delayed primary closure, show promise in reducing these issues.



Figure 2 Outcome

The key elements of this technique include complete removal of all infected tissue, limiting the margins of the excised ellipse to necrotic skin only, and preserving healthy, non-necrotic skin. This approach minimizes tension on the wound by excising the skin ellipse along Langer's lines and ensures early formation of granulation tissue. Delayed primary closure reduces scarring and tissue contraction, resulting in a cosmetically superior wound closure.

Conclusion

The skin-sparing saucerization technique followed by delayed primary closure effectively shortened the duration of wound healing, reduced dressing frequency, minimized hospital stay, and allowed patients to return to work early, thereby improving their quality of life. This technique offers a promising alternative to traditional methods, particularly in reducing the risk of antibiotic resistance and facilitating faster recovery. Therefore, further studies can be conducted to prove significantly data regarding this method.



Figure 1 Outcome



References

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