



Burn Excision and Primary Closure

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Introduction:

Burn is a real challenge and needs lavish facilities. Many classification systems for burn exist, yet the simple classification of burns into superficial, deep dermal and deep is widely used. The challenge that faces the medical team after conducting the primary survey and resuscitation of burn patients is to make a choice on how to close the burn wounds; a choice that might constitute an actual dilemma that necessitates the enrollment of tremendous services and efforts, particularly in the case of the last two types. Early surgical excision of devitalized tissue coupled with prompt wound closure is the cornerstone of managing burn victims. Topical or systemic antibiotics which delayed wound infection and control massive sepsis so they provide an initial period of two weeks in which wound excision and closure is safe and effective⁽¹⁾. If aesthetic considerations were to be put in mind, the skin graft (SSG) mismatchability with hypo- or hyper-pigmentations is a known drawback especially in exposed area⁽²⁾.

Full thickness burn is treated immediately with excision and primary closure whether with local flaps e.g. V-Y, Moberg and S-Z plasties, or with myo-cutaneous flaps. The time to close ranged from two hours to two weeks in cases of thermal injury⁽²⁾. Excision is certainly improving functional and cosmetic results, regardless of the secondary procedure used⁽³⁾. In selected cases primary closure is feasible and with good outcome, deep excision down to the dermis or below followed by SSG and subsequent care of grafting. The source of the allograft can be retrieved from a familial donor with a closely matched immunotype, or from patients on prolonged immunosuppressant⁽³⁾. Direct closure of full thickness skin defect by suturing is the simplest and the best; the donor has a substantial elasticity of so suturing prior to grafting minimizes the secondary defect and the size of SSG. The technique was successful in secondary closure in cases of free radial forearm flaps, graft failure and tendon adherence were the main

encountered complications. We think it can be used in any size of Full thickness defects⁽³⁾.

In delayed consent and unwilling patients early burn excision was done between six-twelve days; here comes the term delayed primary closure (DPC) because it still offers healing by primary intention. The study included 592 patients of which 13% had early excision and closure and the rest offered DPC, the maximum percentage of burn treated with DPC was 50% in children and 55% in adults. Follow up results revealed functionally and cosmetically accepted results. In our opinion, the technique is a reasonable valid option in developing countries where many reasons exist to delay patient's presentation to the specialized units⁽⁴⁾.

Case Report:



Figure 1: The Burn wound in the right arm before the procedure, the measurements are shown in the figure.

A young female medical student, fair colored presented to us with localized deep scald burnt forearm around the right elbow on the lateral side. The estimated burn area was 15x10 cm in diameter, extending in the shape of irregular ellipse just below the elbow with the previous dimensions; the longitudinal axis was 15 cm. She was offered SSG but she refused it fearing the associated complications.



Technique:

The procedure was discussed with the patient and an informed written consent was obtained. Starting with cleansing, scrubbing and draping, the burn area was excised, the wound edges were undermined in all directions and the longitudinal edges were refreshed. The **coaptation** of the wound was achieved even without the need for tension sutures. Dressing was applied and a two-year follow up revealed a well functioning and cosmetically accepted limb. She developed mild hypertrophic scarring at the proximal edge for



Figure 2: The burn wound after the procedure.

which superficial **dermabrasion** is planned.

References:

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