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Dermabrasion Assisted Debridement

Jacob Antony Chakiath[1], Ravi Kumar Chittoria[2]

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Abstract

Dermabrasion has been used for a number of years to treat a variety of dermatologic conditions, including facial skin resurfacing and scar revision. Dermabrasion found its niche in treating acne and traumatic facial scars, and in cosmetic facial resurfacing. Here we describe a dermabrasion assisted debridement.

Keywords: Dermabrasion; Debridement.

INTRODUCTION

Dermabrasion, which was developed in the 1950s, mechanically abrades the epidermis and upper portion of the dermis.[1] The epidermis is entirely obliterated and there is partial removal of the dermis, which undergoes incomplete regeneration. It is a common procedure used by dermatologist and plastic surgeons. It is used for a variety of indications like acne scars, surgical scars, benign tumors, facial rejuvenation and many other uses.[2] Here we describe a dermabrasion assisted debridement.

Author Affiliation: [1]Senior Resident, Department of Plastic Surgery, [2]Professor & Head of IT Wing and Telemedicine, Department of Plastic Surgery & Telemedicine, Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry 605006, India.

Corresponding Author: Ravi Kumar Chittoria, Professor & Head of IT Wing and Telemedicine, Department of Plastic Surgery & Telemedicine, Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry 605006, India.

E-mail: drchittoria@yahoo.com

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BACKGROUND

Dermabrasion has been used for a number of years to treat a variety of dermatologic conditions, including facial skin resurfacing and scar revision. Dermabrasion found its niche in treating acne and traumatic facial scars, and in cosmetic facial resurfacing.

Equipment Required

Small, portable hand held dermabraders are the most popular units available today and are able to generate rotation speeds of 18000–35000 revolutions per minute.[3] End pieces, including wire brushes, diamond fraises and serrated wheels, attach to the end of the dermabrader to allow precise resurfacing and treatment. (Fig. 1)

Fig. 1: Rotating burr or dermabader

TECHNIQUE

As with all cosmetic surgical procedures, appropriate patient selection and room preparation (with appropriate lighting and monitoring equipment) are essential to assure optimal outcomes with the dermabrasion procedure. Patients must understand all of the potential risks, benefits and limitations associated with the procedure. Dermabrasion is technique dependent and the surgeon should be well versed on the technique prior to performing this therapy. Gentian violet solution is used to delineate the areas to be treated. Refrigerant topical anaesthesia is used to freeze the skin prior to the procedure. Holding the skin taut, the dermabrasion procedure occurs in a routine manner, treating one anatomic unit at a time. Post-operatively, patients may have an open or closed dressing system. Post-operative medical treatment is also recommended, including the use of antiviral agents, antibacterial and corticosteroids. The re-epithelialization process is usually complete in 5–7 days and residual erythema is common for up to 4 weeks. Adequate sun protection is essential following dermabrasion.[3]

APPLICATIONS

Dermabrasion assisted debridement in ulcer

In study by *Dilip* et al (2022) to assess the usefulness and effects of dermabrasion in the management of ulcers and compare the outcome of dermabrasion with the conventional method shows Dermabrasion has similar results that are comparable to Conventional debridement in the management of ulcers. Results from the study show that in the management of ulcers, dermabrasion reduces the pain during the procedure significantly, promotes granulation and decreases the healing time though statistically not significant, without damaging the normal tissue or producing complications. The minimal pain and minimum damage to the healthy granulation tissue with the use of dermabrasion makes it a good choice for ulcer management with similar results when compared to conventional mechanical debridement. Dermabrasion has similar results that are comparable to conventional mechanical debridement in the management of ulcers.

Advantage

Less pain compared to conventional mechanical debridement.

DISADVANTAGE

Removal of necrotic tissue using a rotating burr or dermabrader allows even more precision in debridement, but this technique is difficult due to the amount of blood loss. Unchecked, this results in blood spraying throughout the operating theatre. To combat this spray, many surgeons use a clear plastic sheet over the area to be treated. This soon becomes opaque because of the spray of blood.

Dermabrasion assisted debridement in deep thermal burns

Dermabrasion debridement is presented as another method for tangential excision of "deep dermal" burns, with immediate or early skin grafting.

Advantages: In selected cases seem to be: (1) a more rapid healing; (2) a more stable end result, because dermis is present; (3) prevents spontaneous healing with unstable epithelium, hypertrophic scarring, and contractures; (4) a better final appearance. This is a technically easy operation with minimal blood loss.[4]

CONCLUSION

Dermabrasion assisted debridement is a technically easy operation with minimal blood loss and minimal pain.

Conflicts of interest: None

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