

## Complications of Microdermabrasion in Scar Management

Chandavaram Bhanu Prakash<sup>1</sup>, Ravi Kumar Chittoria<sup>2</sup>,  
Jacob Antony Chakiath<sup>3</sup>

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### Abstract

Scars such as hypertrophic and Keloid scars are still among plastic surgery's worst nightmares. Other scars which we have consider are those of burns scars, which can result in ugly appearance and cumbersome to patient. But they too found to have some complications. This provides an overview of scars and scar contractures, and management principles especially microdermabrasion and complication developed with it. In our study we have observed maceration after 2 days of procedure.

**Keywords:** Microdermabrasion, scar.

## INTRODUCTION

Scar quality varies greatly depending on the patient's personal and racial characteristics, the type of trauma, and the condition of wound healing.<sup>1</sup> Management of scars is an important issue that to be addressed in current part of world.<sup>2</sup> Microdermabrasion is one of the recent models that has been proposed in management of scars. The application Microdermabrasion (MDA)

demonstrate a considerable improvement in postoperative scar avoidance.

MDA has also shown to effect deeper layers of epidermis and dermis. MDA causes a rearrangement of melanosomes in basal layer of epidermis, flattening of Rete ridges of dermoepidermal junction. Microdermabrasion is a procedure in which stratum corneum layer, outer most layer of epidermis are removed and allowed to heal by secondary intention.<sup>3</sup>

Many new techniques are coming up toward the treatment of scars, among which Microdermabrasion application is gaining look towards them. But it too found to have some complications. So it is important to study about the complications of Microdermabrasion.

Microdermabrasion is also recently being used in acne scar management. There are various ways of Microdermabrasion among which crystalline hydrogen Microdermabrasion and diamond hydrogen Microdermabrasion are used commonly.<sup>5</sup>

**Author Affiliation:** <sup>1</sup>Junior Resident, <sup>3</sup>Senior Resident, Department of General Surgery, <sup>2</sup>Professor, Department of Plastic Surgery, Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry 605006, India.

**Corresponding Author:** Ravi Kumar Chittoria, Professor, Department of Plastic Surgery, Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry 605006, India.

**E-mail:** drchittoria@yahoo.com

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## MATERIALS AND METHODS

This was done in a tertiary care hospital in south part of India after receiving approval from departmental ethics committee. The subject is a 40 yr old male with post necrotizing soft tissue infection of right leg and foot. On examination an ulcer is present on right leg extending from knee anteriorly and popliteal fossa posterior to dorsum of foot up to base of toes, irregular in shape, margins are sloppy, granulation tissue present, surrounding skin normal. Previously he was treated with multiple sittings of hydro jet debridement, phototherapy, insulin therapy, Low level laser therapy, autologous platelet rich plasma and heterograft, negative pressure wound therapy (Fig. 1) and after that scar management was started. Microdermabrasion was done for scar management.



**Fig. 1:** Healed wound with scarring.

**Step 1:** Make wound free of infection.

**Step 2:** Wound management up to granulation tissue cover completely.

**Step 3:** Do Microdermabrasion (Figure 2).

**Step 4:** Look for complications.



**Fig. 2:** Application of Microdermabrasion for Scar

## RESULTS

Observing day by day will help us to know any complications with Microdermabrasion. On third day of doing Microdermabrasion, we have observed maceration (Fig. 3) of skin at wound area. After that

we have removed the dressing and treated with antibiotics and regular dressing (Fig. 4). Therefore maceration of skin can be considered as a side effect of Microdermabrasion.



**Fig. 3:** Maceration seen after Microdermabrasion



**Fig. 4:** Complete Healing of Maceration after Antibiotics.

## DISCUSSION

Scar management is an important step in management of wound. Patients of post-burn contractures, defects and disfigurements will be most of patients whom plastic surgeons deal with in government institutions. Microdermabrasion has been shown to be useful in scar control; however it does have certain drawbacks. Scars are to be repaired as they can give ugly appearance and sometimes restriction of daily activities. So it is better to know about new techniques and complications associated with them.

Microdermabrasion has been seen as an upcoming technique in treating scars. So we should study about the complications associated with it. After doing Microdermabrasion we have observed the skin maceration after 2 days. Then it was resolved with antibiotic dose and regular dressings.

## CONCLUSION

Skin maceration has observed with Microdermabrasion procedure. It was resolved with antibiotics and regular dressings. Skin

maceration can be considered as a complication of Microdermabrasion.

**Conflicts of interest:** None

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## REFERENCES

1. Puri N, Talwar A. The efficacy of silicone gel for the treatment of hypertrophic scars and keloids. *Journal of cutaneous and aesthetic surgery*. 2009 Jul;2(2):104.
2. Kim JS, Hong JP, Choi JW, Seo DK, Lee ES, Lee HS. The efficacy of a silicone sheet in postoperative scar management. *Advances in Skin & Wound Care*. 2016 Sep 1;29(9):414-20.
3. Shah M, Crane JS. Microdermabrasion. [Updated 2022 May 8]. In: Stat Pearls [Internet]. Treasure Island (FL): Stat Pearls Publishing; 2022 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK535383/>
4. Goel, A., &Shrivastava, P. (2010). Post-burn scars and scar contractures. *Indian journal of plastic surgery: official publication of the Association of Plastic Surgeons of India*, 43(Suppl), S63-S71.
5. Behrangi E, Goodarzi A, Roohaninasab M, Sadeghzadeh-Bazargan A, Nobari NN, Ghassemi M. A review of scar treatment related to acne and burn. *J Crit Rev*. 2020;7(4):714-22.

