

MANAGEMENT OF VYANGA (MELASMA) WITH MICRODERMABRASION (GHARSAN KARMA)

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Article Received on
18 July 2018,

Revised on 08 August 2018,
Accepted on 29 August 2018

DOI: 10.20959/wjpr201816-13268

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ABSTRACT

Background: Melasma is a common skin disorder of hyperpigmentation that is present most commonly in reproductive age women with brown or black skin color. Vyanga is one of the Kshudraroga, characterized by presence of Niruja (painless) and Shyavavarna Mandalas (bluish- black patches) on face. On the basis of above features Vyanga can be co-related with melasma. Microdermabrasion is a widely performed skin rejuvenation procedure.

Aim: To evaluate the efficacy of microdermabrasion (gharsana karma) in Vyanga. **Materials and Methods:** 10 patients of Vyanga were selected randomly from out patient department of skin care unit and underwent microdermabrasion treatment over 90 days period. **Results:** Both objective assessment and subjective assessment reveal a

statically significant result. **Conclusion:** Microdermabrasion appears to have good effects in decreasing pigmentation in melasma.

KEYWORDS: Melasma, Microdermabrasion.

INTRODUCTION

Melasma is an acquired disorder of hypermelanosis of great psychological concern. It is characterized by irregular light brown to dark muddy brown macules and patches involving sun exposed area of face (i.e., cheeks, forehead, nose upper lip and chin). It affects millions of people worldwide and is found most commonly in women with Fitzpatrick skin phototypes. The common contributing factors are genetic predisposition, hormonal treatment, drugs containing phototoxic agents and stress.^[1] Melasma often causes a significant psychological impact with a negative effect on quality of life and emotional well being.^[2,3]

Vyanga is considered as *ksudraroga* characterized by the presence of *Niruja* (painless), *Tanu* (thin) and *Shyavavarna Mandalas* (bluish-black patches on face)^[4], occurs due to *Vata- Pitta* followed by *Rakta Dosha*^[5] *Acharya Susruta* has mentioned *Gharsana karma* in treatment of *Vyangeroga*^[6], which is according to *Yuga-anurupa Sandharbha*^[7] can be compared with microdermabrasion. Considering the above points, microdermabrasion was selected in treatment of *Vyangeroga*.

MATERIALS AND METHODS

Source of data

Patients fulfilling the clinical criteria of Vyanga were randomly selected irrespective of their age, sex, religion, occupation etc. from outpatient department of skin care unit, R.G.P.G. Ayurvedic College and Hospital. Paprola. Written consent was taken from each patient willing to participate before starting the study.

Inclusion criteria-

- Age group between 18-50 years
- Chronicity less than 1 year
- Niruja Mandala, Shyvavarna Mandalas over face.

Exclusion criteria

- Patients not fulfilling the above criterias
- h/o chronic illness diabetes mellitus, atopic dermatitis etc.
- patients on oral contraceptives or on hormone replacement therapy.

Investigations

Routine investigations of blood and urine were carried out before treatment to rule out any systemic disease.

Treatment schedule

A total of 10 patients were registered in a single group; all patients were treated with microdermabrasion therapy.

Follow up

Patients were asked to attend OPD on alternate week for follow up for a period of 90 days.

Table 1: Profiles of patients.

Feature	Single group (n=10)
Female:male ratio	6:4
Patterns	
Centrofacial	4
Malar	5
Mandibular	1

The severity of melasma of each patient was assessed by melasma area severity index⁸. Additionally all patients applied a physical sunscreen(25% zinc oxide).

Objective assessment

The objective assessment was done on the basis of pre and post treatment melasma area severity index (MASI).

Patient satisfaction

At the end of study period, the patients were questioned about their satisfaction with the treatment provided. Patient satisfaction was graded using a 4 point scale as follows:

1. Poor (0-25% clearing)
2. Fair (26-50% clearing)
3. Good (51-75% clearing)
4. Excellent (>75% clearing)

RESULTS



Before treatment



After treatment

Table 2: Statistical evaluation of MASI score (n=10).

	Mean MASI	t-value	p-value	Statistical significance
Before treatment	1.400	3.772	0.004	Insignificant
After treatment	0.000	0.000	<0.050	Significant

Table 3: Results of patient satisfaction with the treatment.

Grade	No. of patients
0-25% (poor)	4
26-50% (fair)	5
51-75% (good)	1
76-100% (excellent)	0

DISCUSSION

Melasma of the skin is a very common problem and can be the source of significant psychological distress for patients. It is one of the common cause of facial hypermelanosis which is characterized by symmetrical hyperpigmented macules, which may be blotchy, irregular, arcuate, or polycyclic and rarely have a linear or a starburst distribution. The exact etiology of melasma is not known but several factors have been implicated. Ultraviolet (UV) radiations (UVA and UVB) and visible light causes peroxidation of lipids in cellular membrane, leading to generation of free radicals, which stimulate melanogenesis.^[9]

Microdermabrasion (MDA) is the resurfacing technique consisting of mechanical abrasion of the skin with pressurized stream of aluminium oxide crystals so as to achieve superficial skin wounding.^[10,11]

Mechanism of action^[12-16]

Microdermabrasion produces epidermal and dermal changes through superficial wounding. part of the superficial epidermis including stratum corneum, surface debris, oil and dirt are removed immediately on direct impact of Al_2O_3 crystals on the skin surface. Resultant superficial wound is then allowed to heal by secondary intention with partial re-epithelialization and remodeling of dermal collagen. Following mechanism in combination are responsible for the ultimate results.

1. Mechanical disruption of the stratum corneum.
2. Partial epithelialization and stimulation of epidermal cell turnover (production of new cells).
3. Vasodilatation of dermal blood vessels and dermal oedema.
4. Stimulation and re-modelling of dermal collagen.

In our present study, we evaluate the effect of microdermabrasion on melasma. We found that microdermabrasion had a statistically significant improvement in MASI score at the end of study.

Suggestions for further study

More studies with larger sample size are desirable for deriving conclusion on the role of microdermabrasion on melasma, moreover microdermabrasion along with topical preparations can be suggested for further study.

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