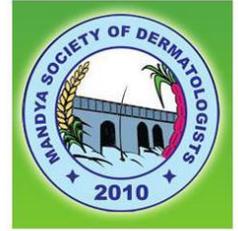




# InfoDerma



A NEWS BULLETIN FROM DEPARTMENT OF DERMATOLOGY

ADICHUNCHANAGIRI INSTITUTE OF MEDICAL SCIENCES

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## **MICRONEEDLING AND RADIOFREQUENCY (MRF)**

Post-acne scarring is a very distressing problem especially among young women. Atrophic acne scars are dermal depressions commonly caused by destruction of dermal collagen following long-standing inflammatory acne. Many therapeutic measures such as chemical peeling, subcision, dermabrasion, fillers and punch techniques have been performed to improve acne scarring with variable outcomes. Recently, a new technique called microneedling fractional radiofrequency (MRF) has been shown to be clinically efficient in managing acne scars without causing direct damage to the epidermis.

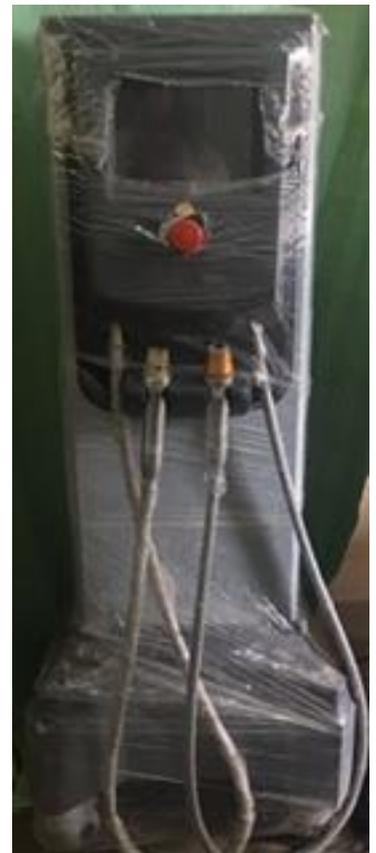
### **Principle:**

MRF device works by creating radiofrequency thermal zones without epidermal injury. After damage to the reticular dermis, long-term dermal remodelling, neoelastogenesis, and neocollagenogenesis result in dermal thickening thus improving the appearance of acne scars.

In Microneedling and Radiofrequency, microneedles are inserted into the skin to desired depths and RF current is passed thus causing remodelling of dermis of the skin.

### **Indications:**

- Treating acne scars and scars of all types
- Improving superficial fine lines and wrinkles of the face, eyes and neck
- Improving the elasticity of aged, striae and photodamaged skin.
- Skin tightening on all parts of the body including arms, chest, knees and abdomen.
- Treatment for axillary hyperhidrosis.



**PRE-PROCEDURE:**

MRF is most commonly used to treat acne scars. Patient should be free of any active acne lesions. Before starting the treatment, the patient's skin is cleansed with 70% alcohol. Local anesthetic cream (EMLA) is then applied over the scars area under occlusion for about 1 hour. After adequate anesthesia has been achieved, the procedure is started under aseptic conditions and an attempt is made to cover the base and sides (shoulders) of each scar present.

**PROCEDURE:**

The procedure involves penetration of insulated microneedles into the dermis to deliver high-tensioned radiofrequency (RF) pulse into the targeted tissue. This results in the body's own production of elastin and collagen fibres in the dermis, making skin firmer and healthier. RF combines with the microneedling, so that the RF heat is not on the outside layer of the skin. It penetrates much deeper, leaving the top skin layer cool. This gives a more uniformed deep tissue warming that will then stimulate the collagen and new collagen fibers are produced.

The needle tip contains 25 very small gold needles acting as an internal conductor. Needle depths range from 0.5 mm to 3 mm, depending on the anatomical site and pass number.

**MRF machine settings:**

Power level ranges from 4 to 12 depending on needle depth and site.

Exposure time ranges from 20 milliseconds to 200 milliseconds.

While treating wrinkles and fine lines, full-face passes per session range from 1 to 3, with extra passes being delivered over the wrinkles.

Treatment sessions range from 1 to 4, with 4 weeks being the average interval between sessions.

Follow-up periods range from 3 months to 1 year.

**Post-procedure:**

After completion of the procedure, the skin is cooled with ice packs as this reduces the burning sensation, the edema and erythema to a greater extent.

Sun avoidance is of paramount importance and needs to be stressed particularly to the patient.

Non-comedogenic antibiotic creams are applied for a period of 3-5 days along with daily sunscreens.

In addition, the patient is advised to avoid any harsh chemicals on the face and also to withhold any cosmetic treatments for at least 2 weeks after the procedure.

Do not exfoliate by force.

Avoid having a swim and taking a sauna for the time being.

Use of epidermal growth factor can enhance healing and ensures faster recovery.

It is important to tell the patient that there will be erythema and mild crusting of the skin for a few days after the procedure. To avoid any interference with the daily routine, the patient can use any camouflage creams to tide over this period

**Contraindications:**

- Skin infections like herpes simplex
- Pregnancy
- Patients on pacemaker
- Previous use of thread lifts in the area you have planned for MRF.

# Acquired Ichthyosis with Hoffman's syndrome

## **Abstract**

A middle aged man presented with features of acquired ichthyosis with Hoffman's syndrome. Laboratory tests support hypothyroidism. Myxoedema and hypertrophy of muscles were present. Patient was previously treated for Pellagra.

## **Introduction**

Hypothyroidism may result from several causes of which autoimmune and iatrogenic are the most common. Muscular hypertrophic changes seen in hypothyroid patient is called Hoffman's Syndrome. Malignancy like Hodgkins; drugs like cholesterol lowering and antipsychotic; autoimmune and nutritional deficiency disorders; infectious diseases like HIV, and endocrine disorders like hypothyroidism are the common disorders that can cause acquired ichthyosis.

## **Case report**

A 50-year-old male farmer, presented with complaints of generalised dryness of skin with mild itching. He had taken treatment for pellagra few years back. The scales were present prominently over the extensor and exposed parts sparing the flexures. Palms and soles were thick and hyperkeratotic with sparse body hair. Tongue was thick and enlarged. His speech was slow and slurred. He had a sallow complexion. Patient's movements were sluggish. His calf muscles were bulky and tender. Deep tendon reflexes were normal but the ankle reflex had prolonged relaxation phase (hung-up sign). On percussion, ridging of the muscles was present (myxoedema). Patient experienced a decline in memory power and gradual weakness and stiffness of limbs since a few years. Positive laboratory findings included - ESR: 80 mm/hr, serum triglyceride: 377 mg/dl, increased TSH and decrease in T3 and T4 levels, CPK: 2966/liter, Electromyogram showed decreased conduction. A diagnosis of acquired ichthyosis with Hoffman's syndrome was made.

## **Discussion**

Muscle cramps, stiffness and weakness frequently seen in hypothyroidism are due to a primary myopathy. Muscle hypertrophy is a rare occurrence in hypothyroidism. It is more commonly seen in males than females and is referred as Hoffman's syndrome in adult and Kocher-Debre-Semelaigne syndrome in children. Mounding phenomenon (myoedema) which may occur when muscle is directly percussed and slow relaxation of reflexes are associated features in Hoffman's syndrome. Thyroid replacement may cause improvement in hypothyroid myopathy but such improvement may be incomplete in severe cases. In the absence of typical exposure dermatitis in pellagra, one should always rule out the possibility of hypothyroidism.

-Dr B D Sathyanarayana

## DEPARTMENT NEWS

### ➤ **Publications:**

Our Department faculty has published the following scientific papers in indexed journals:

1. Dr. B D Sathyanarayana, Professor & Head published a case report titled, 'Allergic Contact Dermatitis to pure henna' in International journal of Advances in case reports.
2. Dr. M R Swaroop, Associate Professor published an original article titled, "The association of metabolic syndrome and insulin resistance in early-onset AGA in males: a case control study" in Indian journal of clinical and experimental Dermatology.

### ➤ **Workshops and CMEs :**

1. Professor and Head of Department Dr B D Sathyanarayana, Associate Professor Dr M R Swaroop and post graduates Dr. Aneesa, Dr Priyanka and Dr Sindhujaa attended a CME on Dermato-Therapeutics organized by Department of Skin and STD, MMC & RI, Mysuru on 18<sup>th</sup> December 2016 held at Hotel Sandesh-The Prince, Mysuru. In this CME, Dr B D Sathyanarayana chaired a session on "Scope of pharmaco-vigilance in Dermatology" and Dr M R Swaroop was one of the panelists in a panel discussion on "Drug abuse"
2. Assistant professor Dr Yogesh D and post graduates Dr Raghavendra JC, Dr Shruti Bidarkar and Dr Suman attended "First South Zone Association of Cutaneous Surgeons of India Dermatosurgery Workshop 2016" hosted by Rajarajeswari Medical College and Hospital, Bengaluru in association with Bangalore Dermatology Society on 18<sup>th</sup> December 2016.

### ➤ **Paper presentations:**

Our postgraduate students presented the following oral papers at the 7<sup>th</sup> Annual Conference of IADVL – Karnataka, CUTICON – KN 2016 at Hubballi between 11<sup>th</sup> and 13<sup>th</sup> November 2016

1. Unusual variant of cutaneous malignancy in a patient with Xeroderma Pigmentosum – presented by Dr Aneesa.
2. Intransit metastasis of Primary Acral Lentiginous Melanoma – presented by Dr Monica Dukkipati.
3. Bowen's disease, a series of cases – presented by Dr Priyanka Kumari.

### ➤ **Ongoing research projects:**

1. A clinico- epidemiological study on pediatric dermatoses in children under five years of age attending a rural tertiary care hospital. A Cross sectional study – by Dr Shruti Bidarkar , Dr B D Sathyanarayana
2. A comparative study of efficacy of Fractional Microneedling Radiofrequency with and without Platelet rich plasma in treatment of Facial Acne scars – Dr Sindhujaa Sreekanth .S , Dr M R Swaroop