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ISSN 2321 - 6328

Case Study

VASCULITIC ULCER AND ITS RECOVERY WITH HERBO-MEDICINAL OINTMENT; MARHAM-E-RAAL – A CASE STUDY

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Article Received on: 20/09/19 Accepted on: 22/10/19

DOI: 10.7897/2321-6328.075113

ABSTRACT

Vasculitis is the inflammatory disorders of the vessels, specifically the cutaneous micro vessels; arterioles, capillaries and venules. This inflammatory involvement results in injury of vessels which may give rise to impairment in distal vascular supply and consequent ischemia and skin ulcer. One patient of vasculitic ulcer was taken into study after written informed consent and prescribed a herbo-medicinal ointment; *Marham-e-raal* for dressing and immuno-modulator decoction of *Withania somnifera*, *Viola odorata* and *Cinnamomum zylanicum* for oral use. Study drug is Herbo-medicinal ointment; *Marham-e-raal*. Patients with vasculitic ulcers present with painful and chronic ulcers over lower extremities often resilient to modern conservative treatment. Herbo-medicinal ointment; *Marham-e-raal*, mentioned in Unani medical manuscript *Keemya-e-anasiri*, is a well-established formulation for non-healing ulcers. Patient got completely recovered and all ulcers fully healed at 30th days. There were no signs and symptoms of vasculitic ulcers after a follow up of 1 month.

Keywords: Vasculitic ulcers; Non healing ulcers (*Qurooh-e-aseeratul indamaal*); Herbo-medicinal ointment; *Marham-e-raal*; Unani medicine.

INTRODUCTION

The Anti-neutrophil cytoplasmic antibody (ANCA) associated vasculitides include Granulomatosis with polyangiitis (GPA, formerly known as Wegener's Granulomatosis), Microscopic Polyangiitis (MPA), and the Churg-Strauss Syndrome (CSS). All three of these forms of systemic vasculitis, as well as other forms of systemic vasculitis, have been associated with vasculitic leg ulcers.¹⁻³ As with ulcers caused by other autoimmune etiologies, aggressive treatment of the underlying autoimmune disease often results in healing of the wound^{3,4} (Figure 1-3).

Presentation of the Patient

A female patient of age 60 years, resident of Bengaluru, visited the surgical OPD of National Institute of Unani Medicine, Bangalore on 30-07-2017 with the chief complaint of wounds with pricking pain on bilateral lower feet since last 2 months. She was known case of essential hypertension since 20 years on regular treatment. She did not have history of pulmonary tuberculosis, Diabetes, Asthma, Thyroid dysfunction and trauma to affected part. Her diet was good and dietary habit was mixed. Professionally she was a housewife with urban lifestyle.

Consent: Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Medical Presentation

According to the statement of the patient, she was apparently well before 2 months. Patient then accidentally noticed a small blister like swelling on her right foot dorsal aspect. Subsequently the multiple brownish swellings appeared on different sites on the dorsum of both feet. The swellings then spontaneously busted out leaving behind serosanguinous discharge resulting into a creation of ulceration at the site of burst. The ulcers so formed were associated with severe burning and pricking pain involving surrounding regions. Sometimes the pain was so severe that the patient was unable to even walk. The pain was confined only at and around the site of ulcerations. There was no referring, radiation and shifting of the pain. The pain only relieved on lying down position aggravated during walking and standing. With all these complaints patients visited a number of the hospitals for seeking treatment but the ulcers did not respond to any form of treatment, rather the conditions deteriorated more and more with time passage. There is no history of fever, shivering, fracture of lower limbs and nausea and vomiting. With all these complaints, the patient visited surgical OPD of our institute and was admitted for further evaluation and management.

Local examination

1. Positions: There were multiple ulcers on bilateral lower limbs as described below.

Right lower limb: At dorsum of foot, largest measuring 1.3 cm × 2 cm.

Left lower limb: At dorsum of foot, largest measuring 4.3 cm × 8.5 cm.

2. Number: Multiple ulcers on dorsum of bilateral feet.
3. Shape: Varying shape and sizes from pyramidal to circular one.
4. Edges: Irregular to sloppy.
5. Floor: Floor was covered with yellow necrosed slough along with blackened devitalized tissues.
6. Discharge: Absent.
7. Surrounding area: Mildly hyperemic and slightly swollen.
8. Tenderness: Tenderness was present at wound sites.
9. Discharge on touch: No bloody, purulent, seropurulent or serosanguinous discharge present on touch and pressing the surrounding of the ulcers.
10. Examination for vascular insufficiency: All the pulsations like dorsalis pedis, anterior tibial artery, posterior tibial artery, popliteal artery and femoral artery were very well palpable.

Investigations

Patient was routinely investigated after admission to our hospital. His hematological values were Hb; 10.0%, total counts; 4700 cells/mm³, Differential counts (polymorphs 70%, lymphocytes 18%, eosinophils 06%, monocytes 06%, basophils 0.0%) and ESR; 87 mm/1 hr. Biochemical value was normal i.e. random blood sugar; 82 mg/dl. Serological values were negative i.e. HIV I and II as nonreactive and HbsAg as negative. Wound swab showed no bacterial growth after 48 hours of aerobic incubation. Edge biopsy showed the features of Vasculitic ulcer.

Treatment given to the patient

After careful history, physical examination, vigilant local examination and necessary investigations, the patient was diagnosed as vasculitic ulcer. The wound was cleansed with normal saline with proper debridement of necrosed and devitalized tissues followed by dressing with herbo-medicinal formulation; *Marham-e-raal* on first day. Subsequently the dressing was changed on every third day and assessment of wound healing in terms of healthy granulations, epithelialization, wound contraction, absence of discharge and tenderness was carried out on every 15th day. In addition, immune-modulator formulation i.e. decoction of *asgand* (*Withania somnifera*), *banafsha* (*Viola odorata*) and *daar chini* (*Cinnamomum zylanicum*) (5 gm each) was given orally in a dose of 20 ml twice a day. Moreover, she was instructed to maintain the personal hygiene, daily changing of costumes and intermittent movement of bilateral knee and ankle joints in order to avoid arthrosis. With this treatment, ulcers completely healed, and the burning sensations subsided (Figures 1-3). Ulcers did not recur at the follow up after one month.

Various methods which we adopted for assessment of healing have been described as following.

Method of calculation of wound area

First wound was cleaned with normal saline followed by keeping the tracing paper over the wound and marking the contour of wound with a pencil. The paper then was kept on graph paper and maximum length and breadth were measured. The area was

calculated by multiplying the maximum length and breadth. The area so recorded at each assessment day was then compared to the area recorded at previous assessment day.

Method of calculation of granulation

The red granulation was considered as healthy one. While measuring the size of ulcer with tracing paper, the extent of granulation on the floor of ulcer was also recorded as maximum length and breadth. The area was calculated by multiplying the length and breadth and percentage was derived with respect to total area of wound. This percentage of granulation was computed at baseline, 15th day, 30th day and 45th day.

Method of calculation of epithelialization

The area of ulcer at each assessment day was measured and subtracted from the area of ulcer previously assessed. The percentage of subtracted value to the area of wound previously assessed was then calculated. This percentage showed the area of epithelialization and hence reduction in wound size.

Method of calculation of depth

The depth of wound was marked on tracing paper. This marking was then measured on graph paper assuming one large square equal to 1 cm.

Method of recording tenderness

Arbitrary scale was used to record the severity of tenderness.

- 0 = No tenderness
- 1 = Mild tenderness
- 2 = Moderate tenderness
- 3 = Severe tenderness

RESULTS

All the ulcers healed by day '30' of treatment duration. At day'0', total area of all ulcers of bilateral feet was 45.22 cm² which on day '15' reduced to 12.5 cm² and finally it was 0 cm² on day'30'. There was no granulation at baseline but at day'15', 100% healthy granulation was achieved. There was no sign of epithelialization at day'0' but 72.35% epithelialization was achieved at day '15' and 100% at day'30'. There was severe tenderness at day'0' which reduced to mild grade at day'15' and no tenderness at day'30'.

DISCUSSION

The herbo-medicinal formulation *Marham-e-Raal* is best indicated in the treatment of chronic ulcers. Its effectiveness is well versed and best documented in the classical text. It is more resilient towards the wound healing and gives a quicker and promising response in comparatively short span of time. It also remove the dead and devitalized tissue from the wound.⁶ The constituents of the *Marham-e-Raal* includes *Mom* (Bees wax/Cera), *Kafoor* (*Cinnamomum camphora*), *Raal hindi* (*Vateria indica* Linn), *Kaat hindi* (*Acacia catechu*) and *Roghane-gao/Ghee*.⁷ *Mom* (bees wax) is a major constituent of this ointment which facilitate penetration and absorption of this *Marham* (ointment) in the localized tissue. *Kafoor* (*Cinnamomum camphora*) has antiseptic, stimulant and rubefacient, demulcent and anodyne activity. When *Kafoor* (*Cinnamomum camphora*) is topical applied, causes vasodilatation and increased circulation in that area and thus speeds up the healing process.⁸⁻¹⁰ *Raal hindi* (*Vateria indica* Linn) has detergent activity and thereby helps in

the wound cleaning by removing the pus from the wound.^{8,10} *Raal hindi* also has anti parasitic property and rubefacient activity.⁹ *Kaat hindi* (*Acacia catechu*) has anti pruritic activity and it is also beneficial in the ulcer due to burn. Dispersion of its *sufuf* (powder) over a wound stops bleeding.⁸ *Kaat hindi* is also known for having strong astringent and anti-parasitic property.^{9,10}

Asgand (*Withania somnifera*) is derived from a plant source, it exhibits *muhallil-e-auram* (anti-inflammatory) and *musaffi-e-khoon* (blood purifier) action.¹¹ *Beekh-e-asgand* (root of this plant) has an anti-inflammatory, sedative and hypnotic activity. Its anti-inflammatory activities are due to Withaferin-A. Sedative and hypnotic activities are due to Withanine.⁵ *Banafshaa* (*Viola odorata*) has anti-inflammatory action due to its alkaloids

violanthin and it is more often used in diseases of liver and intestine.⁵ *Daar chini* (*Cinnamomum zylanicum*) has antibacterial, nerve stimulant, analgesic and exhilarant activity.¹¹ The oil and extracts obtained from the bark of the plant from which *Daar chini* obtained exhibit antibacterial, antifungal and antiviral activities and it also enhances trypsin activity. Eugenol, a content of the oil derived from the leaf of this plant has antiseptic and anesthetic activity.⁵ This formulation i.e. *Asgand*, *Banafshaa* and *Daar chini* all together exhibits a combined action of anti-inflammatory, antibacterial, antifungal, antiviral, blood purifier, sedative, hypnotic, hepatic-protective, nerve stimulant, exhilarant and anesthetic effect on the body thereby modulating the immune response of the body.



Figure 1: Day '0'
Multiple wounds on dorsum of feet. See the floor of wound is covered with necrosed and devitalized slough.



Figure 2: Day '15'
Wounds of right foot completely healed. The floor of ulcer at left foot is now covered with healthy granulations



Figure 3: Day '30'
Ulcer of left foot is completely healed and covered with neo-epithelialized tissues.

CONCLUSION

Herbo-medicinal formulation; *Marham-e-raal* conserve the dynamic action and effectiveness within it against vasculitic ulcer and must thus be used either singly or with other appropriate formulation as the condition permits. The effectiveness and safety of herbo-medicinal formulation; *Marham-e-raal* in vasculitic ulcer must further be assessed and proved by scientific clinical trial on large number of cases in order to set up and authenticate the same efficacy already described in Unani medical literature.

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Cite this article as:

Waseem Ahmad et. al. Vasculitic ulcer and its recovery with Herbo-medicinal ointment; *Marham-E-Raal* - A Case Study. J Biol Sci Opin 2019;7(5): 60-63.

<http://dx.doi.org/10.7897/2321-6328.075113>

Source of support: Nil; Conflict of interest: None Declared

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