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MANAGEMENT OF VENOUS LEG ULCER THROUGH UNANI MEDICINE ALONG WITH LEECH THERAPY-A CASE STUDY

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ABSTRACT

A male patient of age 43 years came with the complaint of non-healing wounds over the medial malleolus of his right leg along with gangrenous condition since one year. Patient was diagnosed a case of venous leg ulcer. After required investigations and local examination of wounds, patient was planned and treated by local application, and combination of Unani medicines formulations along with leech therapy as described in texts of Unani system of medicine. With this unani treatment venous leg ulcer got completely healed and gangrenous condition of leg totally resolved without any complications and side effects.

KEYWORDS: Venous leg ulcer, Unani medicine, leech therapy.

INTRODUCTION

The first written reference of varicose veins goes to the Eber's papyrus dated 1550 BC. But Hippocrates was the first person who describe the relation between venous veins and ulceration. Various physicians like Galen, Celsus, Aetius of Aminda and Pauls Aegien have advised avulsion and cauterization in the treatment of varicose veins and uses of bandages for the treatment of leg ulcers. A number of physicians have attributed ulceration of the legs to the accumulation of black bile and menstrual blood in 10th to 18th century. Many authors like Brodie, Astley Cooper and Hodgson stressed the importance of leg ulceration and the term varicose ulcer was termed.[1]

Venous Ulcer is a wound that occurs due to improper functioning of venous valves, usually involve the legs hence it is also known as venous leg ulcer. It may develop mostly along the medial distal leg and can be very painful and affects the quality of life significantly.[2] Most venous leg ulcers are located in the gaiter area on the medial or lateral malleolus. They can be quite large but are usually shallow and flat with irregular borders and exudate. The affected limb can be oedematous and reddish brown in colour. The tissue surrounding the wound is thickened and it is common for dermatitis and the pain is dependent. Their Pulses can be palpable or absent and Ankle Brachial Index (ABI) may be >0.8.[3]

Venous ulcers are caused by venous insufficiency, because of prolonged venous hypertension causes the valves of the perforator veins to become incompetent therefore allowing blood to back flow and pool. It is the fact that congested capillaries seep protein, fibrin and red blood cells through the capillary walls into the intercellular spaces. This in turn causes stasis and oedema that decrease tissue perfusion and leads to ulceration and cellulitis.[4,6] Predisposing factors to the development of venous leg ulcers are:[7,8]

- Varicosities
- Previous deep vein thrombosis
- Obesity
- Previous ulceration
- Pelvic occlusion
- Prolonged limb dependency

CASE STUDY

A 43 year-old gentleman, who noted a small opening on the medial malleolus of his right leg in early March 16, visited his family physician who promptly swabbed the wound of the patient and started two antibiotics. Rather than healing, the wound continued to grow in size.

The patient came to the surgeon first time on April 16 and advised to apply wet to dry saline soaked gauze, but the wound continued to grow. After 2 weeks the patient was suggested a foam dressing and compression therapy but felt that compression dressings did not help as they kept the leg too warm and the wound too moist, consequently the ulcer was not healing. Therefore, he refused to wear the compression wrap. The patient and attendant became increasingly concerned as the wound continued to grow in size and drain copious amounts of fluid. The patient said that, “It felt like it was on fire!” The wound was cleaned with boiled neem water first and again honey water and finally covered by meshed unripe papaya. This

treatment regime was followed on a daily basis by the surgeon. This patient was gentleman who smoked at least one package of cigarettes per day and spent 10-12 hours on his feet daily. Two years previously, he had an ulcer in the same location but was unable to describe the treatment used or the time to healing. The original ulcer could still be seen; it measured 2.5cm x 1.5cm. x 0.5cm. The entire wound measured 6 cm. x 4 cm. The peri-wound edges were necrotic and sloughing away. The patient felt the pain was usually at an 8 (on a scale of 1-10 with 10 being the worst). He was unable to sleep at night because of the burning pain. He was not taking any other medication. He used Vaseline on the wound to alleviate some of the discomfort. The patient's leg was oedematous and hard to palpate. There was copious serous sanguinous drainage on the old dressing and foul odour was noted. The wound bed was deep red. The patient and his attendent were very frustrated with the situation and were willing to try anything if it would help heal the wound. There were no obvious signs of systemic infection, but it was felt that the wound was carrying a high bacterial burden due to its age and the high level of exudate. The copious amounts of drainage and poor removal of it from the wound site were thought to be causing further breakdown of the peri-wound tissue.

His general health was poor but vital signs were stable at the time of visit in OPD and laboratory parameters were as follows: haemoglobin (Hb) 10.0 gm%, Total Leukocytes Count (TLC) 11000/µl, neutrophils 67%, lymphocytes 22%, eosinophils 2%, red blood cells (RBC_S) 4.05 million cells/µl, Platelets 1.95 lacs/Cumm, erythrocyte sedimentation rate (ESR) 33 mm/hr. Blood sugar (F) 112 mg/dl, Blood sugar (PP) 136 mg/dl, serum bilirubin total 0.9mg/dl, SGOT 38 IU/L, SGPT 42 IU/L, SAP 74 IU/L. Serum cholesterol total 180 mg/dl, serum triglyceride 170 mg/dl, HDL 42 mg/dl, blood urea 30mg/dl, serum creatinine 0.9 mg/dl, serum uric acid 4.0 mg/dl, serum total protein 5.0 g/dl, T3 was 83 ng/dl, T4 3.2µg/dl, TSH 4.5 mIU/L.

U/S Doppler both lower limb showed venous congestion & insufficiency in right lower limb'.

Biopsy (taken from gangrenous wound for malignant cells) showed infected granulation tissue.

Fig. 1: Venous leg ulcer before the treatment.

Treatment Method

The wound was cleaned with boiled neem water first and again honey water and finally unripe meshed papaya was placed to cover the wound. This treatment regime was followed on a daily basis by the surgeon.

The honey dressing were soaked in sterile water and the excess fluid allowed to drain on to a sterile gauze. The wound was also irrigated with sterile water and the dressing was applied to the wound. The patient and his attendent were educated about ulcer care and prevention. The patient was encouraged to lose weight, stop smoking, and elevate his leg when possible and prevent it from worsening.

Unani formulation like Habb-e-Musaffi Khoon, Arq-e-Murakkab Musaffi Khoon, Majoon Ushba orally were given to the patient. 4 leeches at 1st week, 3 leeches at 3rd week and 2 leeches at 8th week were applied on the wound.

The results provided the positive reinforcement to encourage the patient to stay on track. The dressing was changed, on average, approximately every day due to the copious amount of drainage from the wound.

Table 1: Gradation criteria for assessment of ulcer.

Parameters for Assessment	Gradation criteria			
Assessment	0	+	++	+++
Size	No discontinuity of skin/mucus membrane	¼ of previous area of the ulcer	½ of previous area of the ulcer	›½ of previous area of the ulcer
Pain	No pain	Localized pain during movement but relieved on rest	Localized pain even during rest	Localized pain even during rest and also towards other side
Discharge	No discharge /Dry dressing	Scanty, occasional discharge /little wet dressing	Often discharge needs daily dressing	Profuse, continuous discharge needs frequent dressing
Smell	No smell	Bad smell	Tolerable, unpleasant smell	Foul and intolerable smell
Edge	Adhere edge	Smooth, even and regular edge	Rough, irregular edge	Angry look
Floor	Smooth, regular with granulation tissue/ No need for dressing	Rough, regular, mild discharge, less granulation tissue/needs dressing	Unhealthy, less granulation tissue/ needs daily dressing	Unhealthy, no granulation tissue

Table 2: Observation of prognosis of ulcer as per assessment criteria.

Sign and Symptoms	Before Treatment	After Treatment			
	Day1	2 weeks	6 weeks	8 weeks	12 weeks
Size	+++	+++	++	+	-
Pain	++	++	+	-	-
Edge	++	++	+	+	-
Floor	++	++	+	+	-
Discharge	++	++	+	-	-
Smell	++	+	-	-	-
Blood sugar-Fasting	112mg/dl				110mg/dl
-PP	136mg/dl				130mg/dl

RESULTS

The overall treatment process as it relates to wound size is summarized in table 2. Within one week the drainage had decreased significantly, the wound appeared less raw and red and the peri-wound edges were dry and no longer necrotic or sloughing away. Pain remained severe but the patient and his attendant were pleased with the results and felt progress was being made. The wound was measured 2 cm x 1 cm x 0.4 cm. Pain was at a tolerable level (4-5 on pain scale) with only occasional analgesia. The dressings were being changed every day by the surgeon.

By the end of 3rd week, the wound was 1.5 cm x 0.5 cm without depth with erythema present (3.5 cm x 2 cm) around the wound. The wound bed was no longer red and beefy and the patient's leg was no longer edematous or hard to palpate. The patient was down to smoking 1-2 bidi per day.

He was elevating his affected leg at every opportunity. The patient was discharged by the visiting consultant the following week. The erythema had finally disappeared and the pain was minimal.

Fig. 2: After 3 weeks of treatment.

Fig. 3: After 6 weeks of treatment.

Fig. 4: Leech application on wound at 8th week.

The meshed unripe papaya dressings were used for approximately 12 weeks to completely heal the wounds. Initially the dressings were changed on a daily basis because of the copious amounts of drainage. As the amount of exudate decreased so did the frequency of dressing changes. The dressings were changed on average every day. The wound base went from a deep red, surrounded by sloughing necrotic tissue, to a healthy pink granulating wound base. The patient complained of increased pain when the dressing was removed and the wound came into contact with the air.

Once the treatment was completed and the wound was again covered the pain decreased significantly. His pain appeared to decrease in general as the wound began to heal. The wound is completely healed after taking 3 months treatment (Fig.5).

Fig. 5: Healed venous ulcer after 12 weeks of treatment.

CONCLUSION

Based on the results of this case study, it was concluded that meshed unripe papaya[9] dressing was beneficial for a non-healing chronic wound. Antimicrobial barrier dressing with boiled neem water[10] and honey water[11,12] was a good dressing choice. This venous leg ulcer was continuing to decrease in size for a several weeks. The dressing may have created an environment that may have helped decrease the bacterial burden of the wound, which can often be the cause of a wound not healing. The dressing is a not simple treatment modality that was taught to the house surgeon and junior resident to perform the dressing smoothly. Along with regular dressing, leeches were also applied on the wound and found very effective.[13] The Unani formulations were also given to the patient till completely healing of the wound. After getting 12 weeks of treatment venous leg ulcer was completely healed. In this situation the patient and doctors were very satisfied with the results.

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