



NON-SURGICAL MANAGEMENT OF DAWALI (VARICOSE VEINS) THROUGH TA'LIQ AL-'ALAQ (HIRUDATHERAPY) IN UNANI MEDICINE: A CASE REPORT

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Case Report

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ABSTRACT

Introduction: Varicose veins are named after the Latin word "varix," meaning "dilated vein," and are likely derived from the term "varus," which means "bent." They are defined as subcutaneous dilated veins 3 mm in diameter or larger. They are frequently elongated and tortuous, with intermittent 'blowouts', but are defined by the presence of reflux and may be straight and uniform tubes morphologically. In Unani system of medicine (USM), it is a disease where the veins in the legs become dilated, tortuous, and green due to the buildup of *sawdāwa khūn*. It is common in persons who stand for a long time. *Ta'liq al-'Alaq* (Hirudotherapy/Leeching) is a method of evacuation of bad humours from the body with the help of leeches. **Clinical presentation:** A 47 year old female patient, non-diabetic, non hypertensive, and euthyroid, presented to the OPD, Department of *Moalajāt*, RRIUM, Srinagar, with complains of visible, superficial, dilated veins accompanied by mild, dull aching pain and a sensation of heaviness in the calf region of her left leg for the past year. The symptoms typically worsen throughout the day, especially with prolonged standing, and are relieved by elevation or compression hosiery. **Intervention:** The patient underwent hirudotherapy on the calf muscle of the left leg with 4 leeches for 20 minutes, drawing 20 ml of blood, following proper pre and post treatment SOPs, fortnightly for 1 month along with lifestyle and dietary modifications. **Results:** The signs and symptoms were significantly reduced as assessed through Visual Analogue Scale (VAS). **Discussion:** The therapeutic effect of *Ta'liq al-'Alaq* is due to both the removal of morbid humours and the saliva, which contains biologically active substances like hirudin, hyaluronidase, and others. These compounds contribute to anticoagulant, anti-inflammatory, analgesic, anti-ischemic, thrombolytic, immune-stimulant, antibiotic, hypotensive, and anti-edematous effects. **Conclusion:** The findings from the results and discussion indicate that the Unani system of medicine serves as a viable alternative for managing *Dawālī*.

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Table : 1

References: 12

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INTRODUCTION

Varicose veins are dilated, bulging, tortuous superficial veins, measuring at least 3 mm in diameter.¹ The adult prevalence of visible varicose veins is between 30% and 50%. Most studies show a

higher prevalence in women compared to men, with the condition becoming more common with age, increased body mass index, height, and pregnancy. A family history also plays a role, while the evidence regarding an increased prevalence in smokers,

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individuals with constipation, and those in occupations involving prolonged standing remains inconclusive.² Varicose veins can be categorized as primary or secondary. Primary varicose veins originate in the superficial system and result from defective structure and function of the valves of the saphenous veins, intrinsic weakness of the vein wall, and high intraluminal pressure. Approximately one-half of these patients have a family history of varicose veins. Other factors associated with primary varicose veins include aging, pregnancy, hormonal therapy, obesity, and prolonged standing. Secondary varicose veins result from venous hypertension, associated with deep-venous insufficiency or deep-venous obstruction, and incompetent perforating veins that cause enlargement of superficial veins. Arteriovenous fistulas also cause varicose veins in the affected limb.¹

According to USM, varicose veins are considered a condition in which the veins in the legs and feet become dilated due to an excessive accumulation of blood. This excess blood is believed to originate from *sawdāwa mādā* (atrabilious matter), *ghair sawdāwa mādā*, or *balgham-i-ghalaz* (viscous phlegm).³ Bloodletting is rooted in the concept of humoral imbalance in USM, which posits that diseases arise from an imbalance of bodily humours, and restoring this balance brings health. According to USM, most ailments are caused by internal factors, particularly an excess of harmful humours.⁴ Bloodletting practices, including venesection, leech therapy, and cupping with scarification, play a significant role in the treatment of surgical conditions. These methods have been employed for thousands of years by ancient Unani practitioners both as a preventive and therapeutic approach.⁵ In developed countries, bloodletting is typically used for cosmetic reasons, such as treating varicose veins, while in developing countries like India, it is more commonly employed due to complications arising from the condition.⁶

MATERIAL AND METHODS

Case Presentation: A 47 year old female patient, who is non-diabetic, non-hypertensive, and euthyroid, presented to the OPD at the Department of *Moalajāt*, RRIUM, Srinagar, with complaints of visible, superficial, dilated veins, along with mild, dull aching pain and a sensation of heaviness in the calf of her left leg for the past year. The symptoms tend to worsen throughout the day, particularly with prolonged standing, and are relieved by elevating the leg or wearing compression hosiery. The family history was

insignificant for *Dawāl*. The surgical history was not significant. The patient reported normal appetite, regular bowel movements, but decreased sleep. No lymphadenopathy, cyanosis, edema, jaundice, or anemia were observed. On systemic examination, the patient was alert, conscious, and well-oriented with time, person, and place. Heart sounds (S1, S2) were clear, with no added heart sounds. Respiratory sounds were normal. The gastrointestinal system appeared normal, with the abdomen being soft and non-tender. After a thorough examination, the following findings were observed:

On inspection:

- Dilated superficial veins in the calf region just below the popliteal fossa of the left lower leg (Fig. No. 1).
- No dilated great saphenous or short saphenous veins.

On palpation:

- Local temperature: Not elevated.
- Brodie-Tredelenburg test: Negative.
- Perthes test: No signs of deep vein thrombosis (DVT) or saphenofemoral incompetency.
- Homans sign: Negative.
- Moses sign: Negative.
- Multiple tourniquet test: Negative.
- Peripheral pulses: Well palpable.

Investigations:

- **CBC:** Hemoglobin (HB) - 14.2 g/dl.
- **Bleeding time (BT):** 2 minutes.
- **Clotting time (CT):** 4 minutes.
- **Triple Serology:** Non-reactive
- **Random Blood Sugar (RBS):** 112 mg/dl.

Duration of the study: The study lasted for 1 month, consisting of 2 follow-ups, each conducted at a 14 day interval, including the baseline.

Intervention:

The following interventions were given to the patient:

- **For Evacuation of morbid matter:** The patient underwent hirudotherapy on the calf muscle of the left leg with 4 leeches for 20 minutes, drawing 20 ml of blood (Fig. No. 2). The treatment was carried out following proper pre- and post-treatment SOPs.
- **Lifestyle Modifications:** The patient is advised to avoid prolonged walking, standing, and sitting.

- **Leg Elevation:** The patient is advised to regularly elevate the legs by lying down or using a footstool for at least 30 minutes twice a day.
- **Exercise:** The patient is advised to engage in physical activities to improve muscle tone and promote better blood circulation through the veins. Exercises such as 'bicycle riding' in the air while lying on the back, walking, and similar activities are advised to strengthen the calf muscles.
- **Footwear:** The patient is advised to avoid wearing high heels for extended periods.
- **Dietary Modifications:** The patient is advised to reduce food intake and avoid foods that produce

excess *ghalīz khūn* (thickened blood), including those that produce *mo'allid-i-sawdā* (black bile) and *balgham* (phlegm). Vegetables like *baqla* (broad beans), *kabuli matar* (chickpeas), *karnab* (cabbage), and *bazanjān* (brinjal), as well as cereals like *jau* (barley), *ads* (lentils), and *matar* (peas), are considered *mo'allid-i-sawdā*. The patient is encouraged to consume fiber-rich foods such as chapattis, whole wheat bread, vegetables, and fruits, while avoiding refined foods like *maida* (white flour) and pasta.

Adverse Effects: The patient did not experience any adverse or side effects during the treatment.



Fig. 1: Before Treatment.



Fig. 2: During Treatment.

RESULTS

The signs and symptoms were significantly reduced, as measured by the VAS. The patient initially reported a baseline VAS score of 9/10 for pain. Following leech therapy, there was a notable reduction in both pain and heaviness. The VAS score decreased from 9/10 at the 1st follow-up to 1/10 at the 3rd follow-up (Table 1, Fig. 3), indicating a significant improvement in the patient's condition.

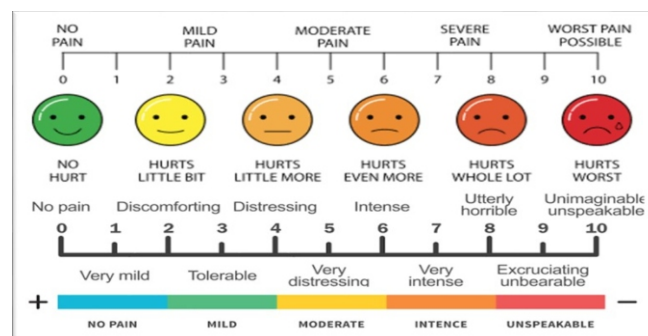


Fig. 3: Visual Analogue Scale (VAS).

Table 1: Assessment of *Dawāli* pain by VAS during Hirudotherapy.

Symptom	VAS Day 1 (Baseline)	2nd Follow up	3rd Follow up
Leg pain	9	4	1

DISCUSSION

Leech therapy is widely recognized as beneficial for managing varicose veins in various Unani texts. In Unani medicine, the use of medicinal leeches to treat diseases is called *Ta'liq*, while in modern medicine, it is known as *Hirudotherapy*. The therapeutic effects of *Ta'liq* are attributed not only to the removal of morbid humours from the affected area but also to the bioactive substances in the leech's saliva. These substances include hirudin, hyaluronidase, destabilase, hirustasin, bdellins, calin, decrosin, eglin, tryptase inhibitors, factor Xa inhibitors, complement inhibitors, carboxypeptidase A inhibitors, histamine-like substances, acetylcholine, pseudo-hirudin, apyrase, kininase, collagenase, leech prostanoids, protease, lipolytic enzymes, triglyceridase, lipase, esterase, anti-elastase, and kallikrein inhibitors, among others. These components contribute to a variety of therapeutic effects, including anticoagulant, anti-inflammatory, analgesic, anti-ischemic, anti-atherosclerotic, thrombolytic, immune-stimulant, antibiotic, hypotensive, internal decongestant, and local anti-oedematous effects.^{7,8}

Hirudin: A powerful anticoagulant, hirudin inhibits thrombin.

Bdellin: A protease inhibitor that has anti-inflammatory properties and inhibits trypsin, plasmin, and acrocin.

Calin: Inhibits blood coagulation by preventing the binding of von Willebrand factor to collagen, thus inhibiting platelet aggregation.

Hyaluronidase: Enhances the penetration power of substances and increases local blood circulation.⁷

Decrosin and Destabilase: Break down fibrin and have a thrombolytic effect.^{7,9}

Factor Xa Inhibitor: Blocks the action of coagulation factor Xa.¹⁰

In cases of venous stasis, pain occurs due to the presence of algogenic metabolites at the site of

microcirculatory units, to which endothelial cells are particularly sensitive, as well as from pain receptors in these units.¹¹ Three compounds in leech saliva act as vasodilators: histamine-like substances, acetylcholine, and carboxypeptidase. These substances widen the blood vessels and enhance blood flow to the bite site.⁹ The anticoagulant, thrombolytic, and vasodilating agents present in the saliva cause hypovolemic hemodilution, prolong bleeding, and lower blood pressure. They also help remove metabolites at the microcirculatory units. Furthermore, anesthetic substances in the leech saliva relieve pain at the site of the bite.^{9,12}

CONCLUSION

The results indicate that USM of medicine offers a promising alternative for managing *Dawālī*. The Unani approach emphasizes balancing the body's humours, particularly addressing the accumulation of morbid blood and black bile, which are believed to contribute to varicose veins. Key therapeutic interventions in Unani include hirudotherapy, which utilizes biologically active substances in leech saliva, such as hirudin and hyaluronidase, to improve circulation, reduce inflammation, and relieve symptoms. In the case presented, the patient showed positive results with hirudotherapy, experiencing a reduction in pain and leg heaviness. Along with leech therapy, the patient was advised to implement lifestyle modifications (e.g., avoiding prolonged standing and sitting with crossed legs) and dietary changes to reduce the accumulation of *mo'allid-i-sawdā* foods. Regular leg elevation was also recommended to alleviate symptoms and enhance blood flow. In conclusion, USM provides a holistic, effective treatment for varicose veins by addressing both the symptoms and underlying causes. This approach offers a valuable alternative to conventional therapies.

Abbreviations: Unani system of medicine (USM), deep vein thrombosis (DVT), Hemoglobin (HB), Bleeding time (BT), Clotting time (CT), Random Blood Sugar (RBS)

Compliance with ethical standards

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Statement of Informed Consent: The patient involved in the study gave their informed consent.

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