

Management of multiple Varicose ulcers with leech application- A Case Report

Monica Shrestha^{1*}, Tukaram Dudhamal²

¹PhD (Ayu) scholar, ²Associate Professor, Dept. Of Shalya Tantra, IPGT &RA, Gujrat Ayurved University, Jamnagar, Gujarat, India

Abstract:

Varicose ulcer occurs due to abnormal venous circulation or venous insufficiency. More than 1 million cases are reported per year in India. They are most common among the chronic non healing ulcers approximately 70% - 90%. A 30 years old male patient came to outpatient department with ulcers on the right leg from last 4 months. On examination it was diagnosed as a case of Varicose ulcer and diagnosis was confirmed by Venous Doppler which showed incompetence at sapheno-femoral junction. Main valve and all segmental valves of great saphenous vein appeared incompetent. According to Ayurveda this condition can be correlated to *Siragranthi*. So leech application was prescribed. The ulcers healed completely after 8 sittings for a period of 2 months, once per week. Inflammation and discoloration also decreased remarkably. So, this case study depicted that such case of varicose ulcer can be treated successfully by leech application.

Key words: Ayurveda, *Jalauka*, Leech, *Siragranthi*, Ulcer, Varicose veins

Received: 12.12.2018

Revised: 16.12.2018

Accepted: 30.12.2018



*CORRESPONDING AUTHOR:

Dr. Monica Shrestha^{1*}

Room No. 18 girl's hostel, Gujarat Ayurveda University, Jamnager. Gujrat-361008

Email: shresthamonica33@gmail.com

Mobile: +919428104230

Introduction:

Srotorodha (Vascular occlusion) is considered an important cause of *Siragranthi*. The sequence of development of disease is *Sanga* (congestion or stasis), *Siragranthi* (dilatation), *Atipravritti* (extravasation) lastly *Vimargagamanam* (alternate route). The cause of occlusion could be spasm of the *Srotas* by increased *Vata* and *Vyana vayu* may cause *Prasarana* (dilatation) and *Akunchana* (constriction) or an adjacent growth may press the *Srotas* leading to *Srotorodha*.^[1] According to Charaka this affects the *Sthayi dhatu*, *Asthayi dhatu* and associated *Srotas* too.^[2] According to Sushruta *Siragrathi* is a *Krichsadhaya* (very difficult to cure).^[3] Vagbhata suggested *Raktavisravana* (Bloodletting) for the treatment of *Siragranthi* which may occur due to vitiation of *Vata* due to causative factors like prolonged standing, straining, carrying heavy weight, excessive physical labour etc. This description in classics are similar to the patho-physiology of development of Varicose veins which basically occurs due to Venous hypertension. Under normal condition blood from superficial venous system is passed to deep venous system by competent perforators and from there they are pushed to heart with help of muscles, negative pressure in thorax and competent valve but if this cycle breaks the blood becomes stagnant in superficial venous system condition of *Sanga* leading to increased venous pressure causing dilatation.

On reviewing Ayurveda classics varicose veins can be co-related to *Siragranthi* (obstructive circulation). Out of the four types of pathological changes mentioned in Charaka samhita, *Siragranthi* is one of the types which can be explained as dilatation of veins.

Case Report:

A 30 years old male patient came to IPGT & RA Shalya OPD (Outpatient department) with complains of dull aching pain in both the lower limbs and swelling from last 5 years, then discoloration developed from last 1.5 years and ulcers development since 4 months. He took treatment in IPGT & RA for the same and the wound healed but the symptoms reoccurred, so he came for the management of wound. He was a cook by profession so he had to stand all day approximately 10-12 hours since 17 years.

On examination: He had multiple ulcers with serous discharge, mainly on the shin area of right lower limb and signs of inflammation were noted. Discharges could be seen oozing out from the skin. Bluish black discoloration was present and eczematous changes were evident. Tortuous veins could be seen. Tourniquet test was positive. Colour doppler study of right lower limb veins showed incompetence of sapheno-femoral junction. Main valve and all segmental valves of great saphenous vein appeared incompetent. Two incompetent perforators were seen on medial aspect of junction of middle and lower one third of leg region. An incompetent perforator seen on medial aspect of junction of upper and middle third of leg. An incompetent

perforator was seen in upper calf region. Multiple varicosities seen on medial aspect of thigh, leg, around ankle and on dorsal aspect of foot in GSV territory. Few of the varicosities were communicating with Short saphenous vein. GSV appear dilated, measuring 9 to 10 mm. SSV appeared dilated measuring 4.8 mm.

Management:

Preparation of patient: Counselling was done to convince the patient about leech application, as patient was very anxious. Informed written consent was taken. All haematological and biochemical investigations were done to rule out any systemic (Cardiac disease, Anaemia, Diabetes, Hepatitis, HIV etc), Coagulopathies like Haemophilia. Light semi-solid diet was given. Patient was asked to wash his legs properly without applying any soap etc. Patient was layed in supine position or slight propped-up position.

Preparation of Leech: Fresh Leech from the tanker jar is chosen and taken in a kidney tray filled with clean water. Fine turmeric powder was sprinkled on the leeches to activate the leeches, the active Leeches were transferred in another kidney tray filled with fresh water.

Leech application:

The lower limb was cleaned with wet gauze. The area was rubbed with dry gauze. The Leech is held with fingers and applied directly to the skin. 2-4 Leeches were applied at a time [Fig-1]. Once Leeches start sucking

the blood (its mouth becomes like Horse's foot), they are covered with wet gauze. Sometimes if the leeches does not suck spontaneously, to facilitate the sucking fresh drop of blood is poured at the site where leech is to be applied if they don't catch the site by its own. The Leech when once starts sucking the blood, elevates its neck, and fixes its head to skin. A wave like movement is observed indicating sucking of blood. Leech leaves the site spontaneously once they have sucked desired amount of blood.

Post procedure patient's care:

The site is cleaned with normal saline, followed by dressing with turmeric powder or *Arjun twak churna* (powder of *Terminalia arjuna*). Proper haemostasis is achieved and tight bandaging was done. Patient is allowed to sit for some time and vitals were checked.

Post procedure leech care:

After application, used Leeches are kept in kidney tray. Turmeric powder is applied on its mouth and vomiting was induced, remaining blood was removed by squeezing the leech gently from tail end towards head to remove all the blood. After this the Leech is washed with clean water and kept in glass jar.

Duration of treatment and Follow up:

Total duration of treatment was 2 months (8 sittings), once every week and follow up was taken about one month of completion of treatment.

Assessment criteria were:**1. Pain: Pain was assessed using VAS score**

An imaginary line of 10 cm will be marked to indicate intensity of pain to assess the pain intensity in the patients.

**2. Burning**

Grade 0	No burning sensation
Grade 1	Occasionally burning sensation in the legs
Grade 2	Frequent burning sensation
Grade 3	Continuous burning sensation throughout the day

3. Discharges

Grade 0	No Discharge
Grade 1	Mild Discharge(if wound wets 1 gauze piece)
Grade 2	Moderate Discharge(if wound wets 2 gauze pieces)
Grade 3	Severe Discharge(if wound wets more than 2 gauze piece)

4. Swelling

Grade 0	Absent
Grade 1	Present

5. Itching

Grade 0	No itching
Grade 1	Mild and occasional
Grade 2	Moderate and occasional
Grade 3	Severe and continuous

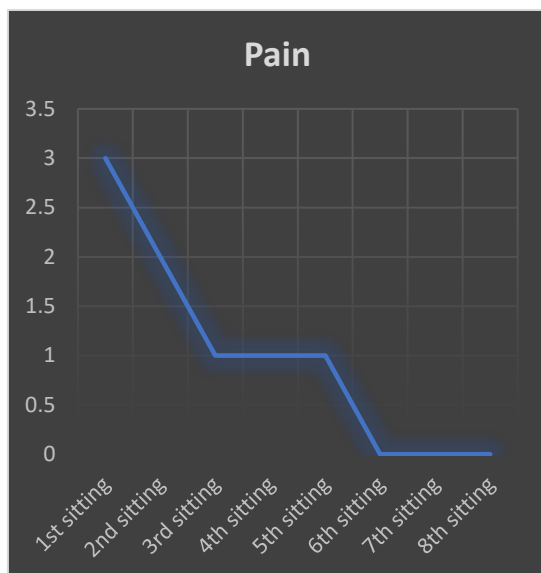
6. Discoloration

Grade 0	No discoloration
Grade 1	Blackish patchy hyper pigmentation
Grade 2	Hyper pigmentation with eczema
Grade 3	Severe pigmentation and discoloration

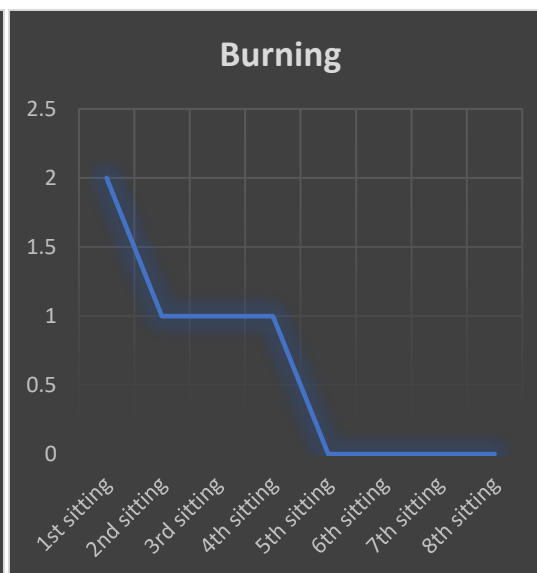
7. Size of wound (in cm)

Observations:

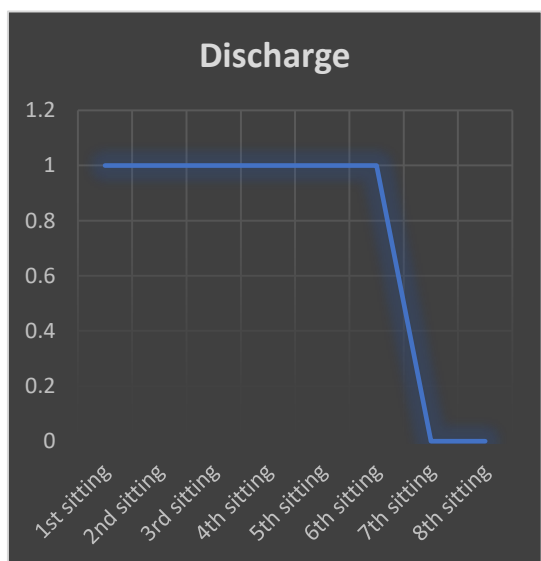
Observation were recorded and represented in the form of Graph 1,2,3,4,5,6



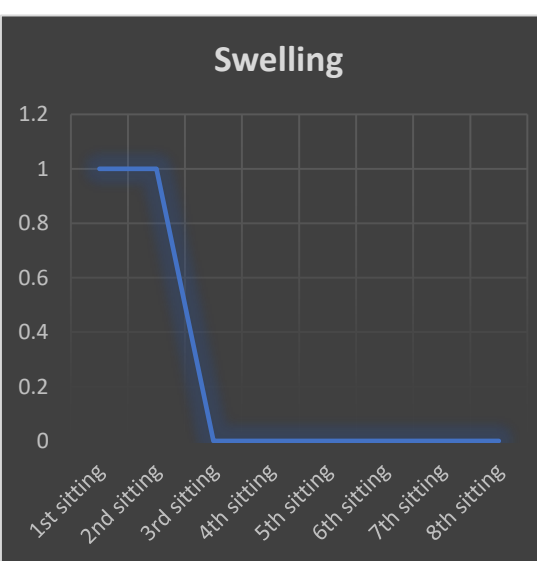
Graph 1. Relief in pain



Graph 2. Relief in Burning



Graph 3. Relief in discharge



Graph 4. Relief in Swelling

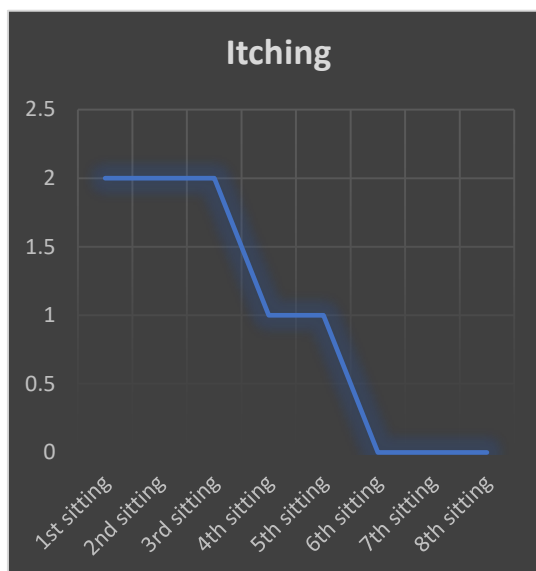
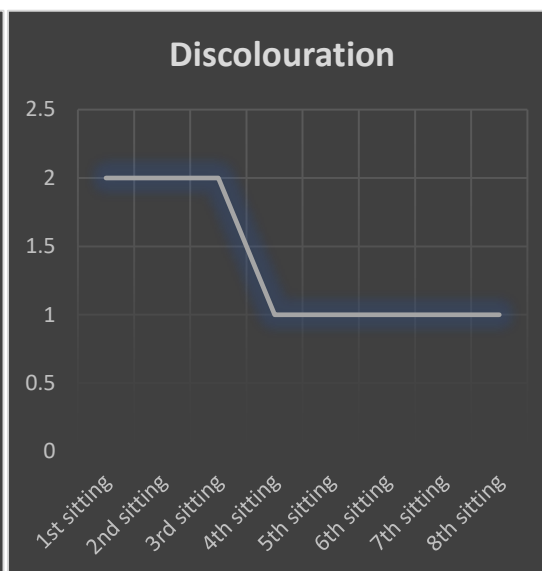
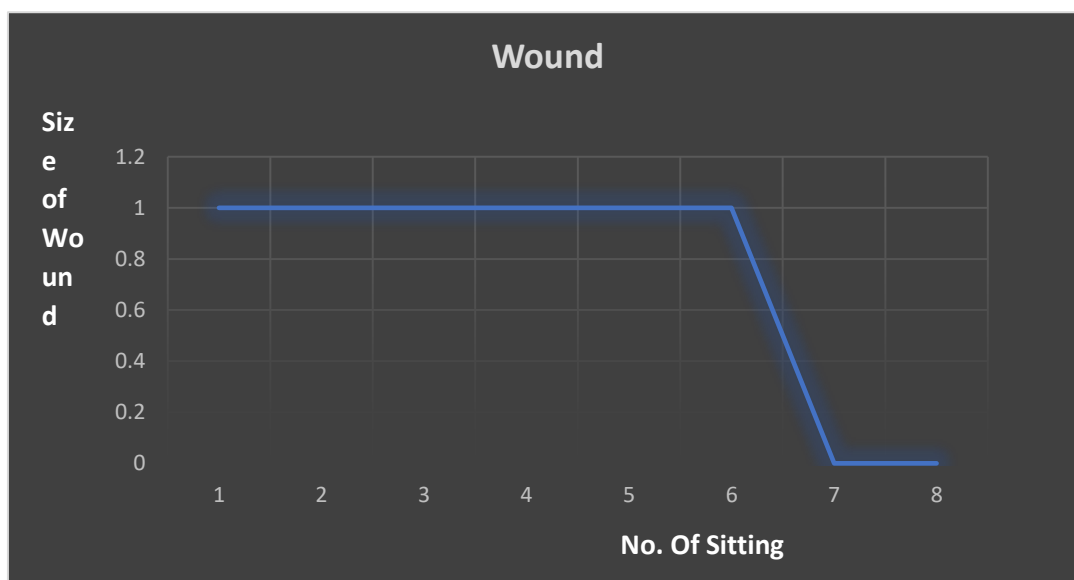
**Graph 3. Relief in itching****Graph 3. Relief in discoloration****Graph 3. Change in size of wound**



Figure 1. 1st sitting

Figure 2. 2nd sitting



Figure 3. 3rd sitting



Figure 4. 8th sitting

Discussion:

In this case study patient had non healing ulcers on right lower leg. Patient was diagnosed with varicose ulcer according to clinical examination. Venous Doppler was done to confirm the diagnosis as it is a non-invasive investigation by which condition of the veins, incompetent valves etc can be assessed. Patient had a history of prolonged standing which is one of the causes of varicose veins because during prolonged standing long column of blood along with gravity puts pressure on the incompetent valves which leads to varicosity. Patient was undergoing treatment for ulcers, the ulcer had healed earlier but it reoccured as the underling pathology was not addressed and due to high venous pressure there was obstructed circulation and stagnation of blood (*Sanga*) leading to extravasation (*Vimargagamna*) and breaking down of RBC in the lower of leg causing itching and eczema. Ulcer formation occurred due to anoxia and edema as a result of venous stasis. This causes lipolysis of the subcutaneous fat. Discoloration occurs in such condition due to hameosiderin deposit from breakdown of RBC which comes out from the thin walled veins.^[4] There are several treatment for the management of such cases in modern medicine specially surgical but these are quite costly and there are recurrences too, specially in such patient where it is associated with the occupation. So, in such cases an alternate treatment had to searched. In Ayurveda *Raktamokshan* has been suggested for *Siragranthi*. So leech application was chosen out of all other methods of *Raktamokshan* as it is

recommended for timid and anxious people in the classics.^[5] In this study when patient came he had multiple ulcers, ezematous changes were observed and skin was discolored. (Figure 1) On the 2nd visit discoloration was reduced and discharges were also decreased. (Figure 2) On third sitting skin was dry, there were no signs of inflammation, ulcers had contracted and there number were reduced (Figure 3). On 8th visit, there was no signs of inflammation, skin was dry and no eczematous lesions were observed. (Figure 4) Leech's salivaimprove blood flowwhich is achieved mainly by histamine-like molecules that cause vasodilatation and arise via local vascular permeability.^[6] Improved circulation reduces the venous pressure in the area and hence the symptoms improved.

Conclusion:

This case study depicts the efficacy of alternate method of treatment of venous ulcer.

References:

1. Arunachalan S, Treatise on Ayurveda, 2005: 45.
2. Shastri R, Commentary Vidyotini on Charak samhita of Vimansthan; Chapter 5 Verse 24, Varanasi: Chowkhamba Sanskrit Sansthan, 2009:714.
3. Shastri A, Sushruta Samhita of Sushruta NidanSthana; Chapter 11Verse 9, Varanasi ChowkhambhaSanskrit Sansthan, 12thed.2001;351.
4. Das S ,Edition (7th)A concise textbook of Surgery,2012,17.

5. Shastri A, Sushruta Samhita of Sushruta Sutrasthan Sthana; Chapter 13 Verse 3, VaranasiChowkhambhaSanskrit Sansthan, 12thed.2001 p-57.
6. Michalsen A, Roth M, Dobos G, Aurich M. Stuttgart, Germany: Apple Wemding; 2007. Medicinal Leech Therapy.

Guarantor: Corresponding author is guarantor of this article and its contents.

Conflict of interest: Author declares that there is no conflict of interest.

How to cite this article:

Shrestha M, Dudhamal TS. Management of multiple Varicose ulcers with leech application- A Case Report.Int. J AYUSH CaRe. 2018; 2(4): 26-34.