EFFECT OF LEECH APPLICATION IN THE MANAGEMENT OF BURGER’S DISEASE: A CASE STUDY

Waghmare M.1 Kalmegh M.S.2 Joshi K.3

1. PG Scholar, Shalyatantra Dept., Vidarbha Ayurved Mahavidyalya, Amravati
2. Guide, HOD Shalyatantra Dept., Vidarbha Ayurved Mahavidyalya, Amravati
3. Assistant Prof. Shalyatantra Dept., Vidarbha Ayurved Mahavidyalya, Amravati

Abstract:
The inflammatory response in the arterial wall that involves the surrounding veins and nerves and results in thrombosis of the artery is known as Burger’s disease. Smoker’s disease, also known as TAO (thrombangitis obliterans), primarily affects young males between the ages of 20 and 40. Early on, it affects just one limb, but eventually, both limbs are affected. As far as the genesis of this illness is concerned, there is a strong correlation between smoking, frequent small foot injuries, poor hygiene, and altered autonomic functions. In contrast to surgical intervention, which includes lumbar sympathectomy, omentoplasty, and amputation as the only option if gangrenous stage is present, allopathic management involves conservative treatment with the use of vasodilators, pentoxifylline, and low-dose aspirin. The aforementioned procedure is expensive and has drawbacks. Although the disease is not mentioned in Ayurveda, its symptoms can be linked to strotas dushti lakshana, such as sanga and siranam granthi. Additionally, because raktu is vitiated, raktavaha strotasa dushti is also involved; therefore, leech application was planned based on these two references into account all three factors. Before using leeches and performing the scheduled leech therapy, poorva pradhan paschat karma is conducted. Leech therapy was found to be helpful with fewer problems in a total of 6 sittings.

Keywords: TAO, Raktawaha strotas, Leech, Gangrene

Dr. Manek Waghmare M.
PG Scholar, Shalyatantra Dept.,
Vidarbha Ayurved Mahavidyalya, Amravati

How to cite this article: Waghmare M. Kalmegh M.S. Joshi K. Effect of Leech Application in the Management of Burger’s Disease: A Case Study. Int J Ind Med 2023;4(4):22-28
**Introduction:**
Ayurveda is the comprehensive science of life, with a wide range of medications and methods for treating people. One of Ayurveda’s most significant advancements, which incorporates the leech application, is Raktamokshan (Jalankavacharan). The finest treatment ever described for vrana, skin conditions, cellulitis, etc. is leech therapy. Buerger’s disease- TOA (thromboangitis obliterans), which is characterized by thrombophlebitis of the superficial or deep veins, Raynaud’s syndrome, and occlusive disorders of small and medium-sized arteries. One or two of the three manifestations are frequently all that are visible. The wall of veins and arteries exhibits histologically inflammatory alterations that cause thrombosis. It mostly affects men who are smokers. Smoke produces carboxy-haemoglobin when carbon monoxide and nicotinic acid interact with the blood.

**Case study**
- **Age:** 60 years old male patient
- **Occupation:** farmer
- **OPD No:** 7126
- **Date of 1” visit:** 21/6/2022
- **Address:** Dastur Nagar, Amravati
  - **Desh:** sadharan
- **Duration of study:** 45 days

**Chief Complaints**
- Pain in right leg - since 8 months
- Blackish discoloration of 2nd and 3rd toe - since 6 months
- Wound over rt foot on the dorsal aspect below second toe – since 2 months
- Pus discharge from wound.
- Rest pain - since 6 months

**History**
**History of the Patient:** The patient was asymptomatic before 8 months then he gradually developed intense pain of the right leg, which didn’t allow him to do his daily work, intermittent claudication lead to painful walking. There was black discoloration with ulceration over the lesser toe which did not heal. Amputation of the toe was recommended in a private hospital.

**Past History:** Known case of Hypertension IHD with DM type 2 since 2yrs and was on medication for the same. No history of any surgical illness or trauma. History of drug allergy-Patient was not allergic to any drug or substance.

**Personal History**
- **Diet:** mixed
- **Addiction:** Chronic smoking (10 Bidi per day for the 35 years)
- **Family History:**
  - **Maternal history:** no specific
  - **Paternal history:** no specific
- **Social status:** lower middle class

**General Examination**
- **GC:** Good
- **Temperature:** 99F
- **Pulse:** 78/min
- **BP:** 150/90 mmHg
Systemic Examination
RS: AE-BE, clear
CVS: S1 S2 normal
CNS: Conscious, Oriented

Local examination
L/E: Blackish discoloration of the right leg’s 2\textsuperscript{nd} toe and blackish ulceration over skin under the 2\textsuperscript{nd} toe
pus discharge noted over the ulcerated area which is foul smelling.
Tenderness noted at the site.
Wound present near the 2\textsuperscript{nd} toe on dorsal aspect of the foot.

Vrana pariksha type: dushtavrana
Hetu: nij (due to claudication)

Vrana ashroya (Adhishthan)- Twak, rakta, monsa, meda, sira, asthi, sandhi.

Vranopadravas- vranasya- foul smell, pus discharge, pain and tenderness at wound site and toe.

vranitasya- kshudhamandya , nidraliptata

Vranapanchak –
1) Akruti- dimensions-
length- 6 cm(approx. measured by scale)
breadth- 4cm.
depth- uneven
margins- irregular
base - indurated

floor - covered with slough and hyper granulation tissues
2) Gandh- foul smelling
3) Vrana- blackish yellow
4) Strava- blood stained frank pus discharge
5) Vedana- pain and tenderness at the wound site

Aim: to study the role of leech application in the management of burger’s disease.

Objectives:
1) To study the role of leech application in the management of burger’s disease.
2) To minimize the claudication by use of leech with its anti coagulation properties.
3) To minimize wound healing duration

Case study: Single Case Study
Duration of Study: 45 Days

Investigations

Investigations
Hb-13.6gm%
WBC-5,400
RBC-4,200 millions/mm
Bleeding Time- Imin 4sec Clotting time- 4min 6sec
BSL-180mmg/dl
Urine routine-Nil
Microscopic-Nil
HbsAg-non reactive
HIV-non reactive
USG Doppler: Of bilateral lower limb suggestive of right side peripheral vascular disease

Materials and methods:
Materials:
Two small plastic jars, kidney tray, one big glass bowl and turmeric powder.
Sterile gauge, swab, gloves and normal saline with dressing material.

Method: (Application of leech)
Jaloukavacharan in 5 settings, 2 leeches applied on 2nd day and then applied in the intervals of 7 days. Vranadhoopan done on 3rd day and then after intervals of 2 days. Triphala Kwath Dhawan done on alternate days. First purified and made them active by putting them in the water mixed with turmeric powder for 10 minutes. After that leeches were kept in plain water for 5 minutes. Then the patients made to lie in supine position and wound is cleaned with normal saline water and draped with hole-sheet. Then the leech is applied over the wound and starts sucking. Then a wet gauge was placed to cover leech’s body and continuous pouring of water done. As the leech start sucking blood, it remained safely in that place only and then detached by Itself (30- 45 minutes). The site was cleaned with freshly prepared Triphala Kwath and bandage was given after applying turmeric powder over bleeding site. After that leech was made to vomit the sucked blood in a turmeric powder and kept in a separate jar. Patient was undergone six sittings of leech therapy i.e. Jaloukavacharan (5 days of interval) on OPD basis. Leech therapy was done in a standard protocol as described by Acharya Sushruta. Leech therapy continued until complete healing achieved and the result were assessed at regular interval along with regular local dressing.
Along with leech therapy internal medicine was advised.

Triphala Guggula 2bd
Tab Pentoxyphylline 400 1od
Tab Ecosprine 1od
Tab Amlodipine 1od
Tab metformine 1od

Results:
Pain- subsided after 7 days. Claudication distance- was improved.
Rest pain- rest pain totally disappeared in 10 days.
Discoloration- skin color started to improve from 10 days and returned to normal in 1 month
After 1 month, the gangrenous part was healed.
Local temperature- the local temperature started to raise after 3rd sitting of leech application
Observations: (Table no.1)

<table>
<thead>
<tr>
<th>Follow-up days</th>
<th>Pain</th>
<th>Tenderness</th>
<th>Slough</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>++++</td>
<td>++++</td>
<td>++++</td>
<td>++++</td>
</tr>
<tr>
<td>7th</td>
<td>++++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>14th</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>21st</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>28th</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>35th</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td>45th</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
</tbody>
</table>

Before disarticulation

Disarticulation

Day 1 after disarticulation

Leeches applied on day 2
After vrana dhoopan

After 15 days

After triphala kwath dhawan
Discussion:
The more effective approach for treating Berger’s disease is leech therapy. This treatment keeps the patient mobile during treatment, eradicates the disease with a low risk of problems and recurrence, and is also reasonably priced. Hirudin, which has superior anticoagulant properties (inhibits platelet aggregation) than heparin. Hirudin is present in the saliva of leeches. Saliva contains anesthetic and anti-inflammatory substances, including hyaluronidase, lipase, esterase, Bdellin, and eglin, which reduce pain and inflammation. Histamine-like substances have a vasodilator action. Leech therapy increased local blood flow, which aided in the treatment of pain and sped up the healing of wounds.

Conclusion:
In Burger’s disease, leech application along with internal medicines can give good results in pain management & in the healing of wounds. Considering the result in a single case, this treatment regime can be applied to a larger sample to draw an appropriate statistical conclusion.

References: