

## EFFECT OF LEECH APPLICATION IN THE MANAGEMENT OF BUERGER'S DISEASE:- A CASE STUDY

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Article Received on  
17 June 2018,

Revised on 07 July 2018,  
Accepted on 27 July 2018

DOI: 10.20959/wjpr201815-13075

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### ABSTRACT

Buerger's disease is the inflammatory reaction in the arterial wall with involvement of neighboring veins and nerves, terminating in thrombosis of the artery. It is also called as TAO (thromboangitis obliterans) or smoker's disease, mainly affecting young men between 20 to 40 years of age. In early stage it is unilateral but later involves both the limbs. So far as etiology is concerned this disease has a striking association with cigarette smoking, recurrent minor feet injuries, poor hygiene and altered autonomic functions. Allopathic management includes conservative treatment with use of vasodilators, pentoxifylline and low dose of aspirin whereas surgical management

includes lumbar sympathectomy, omentoplasty and if gangrenous stage is there, then amputation is only choice. The above stated treatment is costly and associated with complications. In Ayurveda the disease is not mentioned but its features can be correlated with *strotas dushti lakshana* like *sanga and siranam granthi*, also there is vitiation of *rakta so raktavaha strotasa dushti* also involved hence based on these two references leech application was planned. Case study was carried out on xyz patient considering all three parameters i.e *poorva, pradhan, paschat karma* before applying leech and scheduled leech therapy performed. In a total 6 sittings of leech therapy result was found effective with less complications.

**KEYWORDS:** TAO, *Raktawaha Strotas, Leech*, gangrene.

### INTRODUCTION

*Ayurveda* is the complete science of life, which has various drugs and techniques for treatment of mankind. *Raktamokshan* is one of the biggest innovations in the field of

*Ayurveda*, which includes the leech application(*Jalaukavacharan*). Leech therapy is the best treatment ever described for *vrana*, skin diseases, cellulitis etc. Buerger's diseases are TOA (thromboangitis obliterans) is characterized by occlusive diseases of small and medium sized arteries, thrombophlebitis of the superficial or deep veins and Raynaud's syndrome. Often only one or two of the three manifestations are presents. Histologically there are inflammatory changes in the wall of arteries and veins leading to thrombosis. It occurs exclusively in male smokers. As smoke contains carbon monoxide particles and nicotinic acid they combine with the blood and form carboxy-haemoglobin. Initially it causes vasospasm and hyperplasia of the intima later thrombosis in the vessels and thus obliteration to the blood flow. Clinical features include ischemic changes of the limb, discoloration, ulceration, and gangrene. The use of vasodilators aspirin may hold the progressive of the disease for a while but is not the actual part of curative treatment. Surgical procedures are very costly and not having the promising results. Pain in Buerger's disease results from phlebitis and ischemic neuritis, gradually rest pain may so intense to disturb the sleep.

### CASE STUDY

Age: 55 years old male patient

Occupation: Labor

OPD No: 4452

Date of 1<sup>st</sup> visit: 13/3/2018

Date of Recovery: 14/4/2018

Address: Dastur Nagar, Amravati

### Chief Complaints

- Pain in right leg- since 8 months
- Blackish discoloration of toe - since 6 months
- Rest pain- since 6 months

### 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 healed. Amputation of the toe was recommended in a private hospital.

**Past History**

Known case of Hypertension 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

**General Examination**

GC: Good

Temperature: 98F

Pulse: 78/min

BP: 130/90 mmHg

**Systemic Examination**

RS: AE=BE, clear

CVS: S1 S2 normal

CNS: Conscious, Oriented

L/E: Discoloration of the right leg and blackish ulceration over skin of right leg toe decreased local temperature.

**Investigations**

Hb- 13.6gm%

WBC- 5,400

RBC- 4,200 millions/mm<sup>3</sup>

Bleeding Time- 1min 4sec

Clotting time- 4min 6sec

BSL- 98mmg/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

### Material

- 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*)

- 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 a left lateral 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 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 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 × 30 days
- *Gandhak Rasayana* 2bd × 30 days
- *Manjishthadi Kashaya* 30ml twice for 30 days.

## RESULTS

Pain- subsided after 7days

Claudication distance- was improved.

Rest pain- rest pain totally disappeared in 20 days.

Discoloration- skin color started to improve from 10 days and returned to normal in 1 month

Local temperature- the local temperature started to raise after 3rd sitting of leech application

After 1 month, the gangrenous part was healed.

## DISCUSSION

Leech therapy is the better alternative in the treatment of Buerger's disease. This therapy not only cures the disease with minimum chances of recurrences and complications but also keeps the patient ambulatory during the treatment and is cost effective. Saliva of leeches contains Hirudin which is having better anticoagulant property (platelet aggregation inhibitory action) than heparin. Anesthetic & anti-inflammatory components (Hyaluronidase, Lipase, esterase, Bdellin, Eglin having anti-inflammatory effect) in saliva helps in reducing pain & inflammation. A substance similar to histamine has vasodilator effect. Leech therapy improved local blood supply which helped in pain management and in accelerating wound healing.

## CONCLUSION

1. In Buerger's disease leech application along with internal medicines can give good results in pain management & in healing of wound.
2. Considering result in single case, this treatment regime can be applied to larger sample to draw appropriate statistical conclusion.

Condition before treatment-



During Treatment-



After 6 settings of leech application-



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