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**ABSTRACT**
Thrombo angitis obliterans (TAO) is one of the Peripheral vascular disease (PVD) which presents with progressive occlusion of peripheral distal arteries resulting in ischaemia. Patients present with clinical features like intermittent claudication pain, burning sensation, blackish discolouration, gangrene. This condition has striking similarities with "Gambhiravatarakta" which is characterised by similar symptomatology viz., burning sensation, severe pain, suppuration (Mamsa kotha) and tenderness. In this regard for the management of the condition, a comprehensive treatment protocol was planned based on the classical references. A 39 year old male patient diagnosed with TAO was selected for the case study. The treatment protocol chosen was Manjishthadi Kshara Basti for 5 days in yogabasti pattern and 4 sittings of Jaloukavacharana with 5 days interval. The patient had significant improvement with respect to clinical presentations after the treatment.

**Keywords:** Peripheral Arterial Disease, Vatarakta, Manjishthadi KsharBasti ,Thrombo angitis obliterans, Jaloukavacharana.

## I. INTRODUCTION

Thrombo-angitis obliterans also known as Buerger's disease is basically caused by tobacco use. Itis a non-atherosclerotic, segmental inflammatory occlusive vascular disorder involving medium and small sized distal arteries with the involvement of the neighboring vein and nerve, terminating in thrombosis of the artery.

TAO affects exclusively in males of young age group between 20 and 40 years. It is uncommon in women who constitute only 5% to 10% of all the patients with Buerger's disease.

The features of TAO can be correlated with the Vatarakta. It is produced by vitiation of both Vata and Rakta. Here there is obstruction to the normal flow of Vata by vitiated Rakta manifesting many clinical symptoms which starts mainly in Pada and Hasta[1].

Karshnata (blackish discolouration), Sparshaghnatwa (parasthesia), Kshate ati ruk (tenderness), Supti (numbness),Sheetalata (coldness in limbs),Daha (burning sensation) , Khanjathwa (lamness), Dhamani anguli sandhi sankocha (constriction of vessels and fingers)Sheeta pradwesha (aversion towards cold), Prashosha (atrophy), Mamsakotha (gangrene){as a complication} are clinical manifestations listed in Vatarakta. There is a huge resemblance in the features of Vatarakta mentioned in Ayurvedic literature with that of TAO.

According to Ayurveda literature, Basti and Raktamokshana are prime treatments[2] in Vatarakta. Manjishtadi ksharabasti[3&4] and Jaloukavacharana[5] were selected for treatment in selected TAO patient.

**Case study**

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A 39-year-old male patient from Bangalore visited the Shalyatantra OPD of the institution with the complaints of Pain in the right calf region upon walking for some distance along with blackish discoloration and localised burning sensation affecting the great toe, second toe, third toe, and dorsal aspect of the right foot for the past 2 years. Associated with hair loss on the right lower limb, present for the past 1 year.

**History of present illness:**

Male patient aged 39 years N/K/C/O - DM, HTN and Thyroid dysfunction. The patient, initially normal two years ago, gradually developed excruciating pain in the right calf region upon walking for some distance. The pain was relieved upon stopping, suggesting claudication. Additionally, there is blackish discoloration on the dorsal surface of the right foot, starting from the greater toe and spreading to adjacent two toes and the dorsal aspect of the foot associated with burning sensation, indicative of potential nerve involvement Seeking medical attention, the patient consulted a local healthcare professional but did not experience relief from the symptoms. The patient neglected the condition, and a year later, discovered hair loss on the dorsal aspect of both feet. The culmination of these symptoms prompted the patient to seek further management at shalyatantra OPD of Govt, Ayurveda hospital, Bengaluru.

Exacerbating factor: after walk, after smoking and cold weather. Precipitating factor: Rest.

- Past History: No H/O CVA, Trauma & Injury
- Personal History: Appetite – Good Sleep – disturbed

Bowel – Normal ( 1 time / day)

Micturition – Normal ( 4-5times /day and 1 time /night) Habits– smoking & Alcohol

- Tobacco history;

| Description | Remarks |
|---|---|
| Mode(beedi, cigarette, chewing) | Cigarette |
| Since | 20yrs |
| Frequency | 20/day |
| Period of abstinence | 15days |
| Has he quit now | Yes |
| Relation with symptoms | Present |

- Family History: All family members said to be healthy

**Examinations**:

- **General examination**

Vitals ; BP – 130/80 mm of Hg on supine position, Pulse – 78/min regular

RR –20/min Temp. – 98.6◦ F

- **Systemic examination;**

CNS – Well oriented to person , place and time , HMF intact , Cranial nerves – within normal limit

RS – Bilateral NVBS present , No added sound

CVS – S1, S2 heard ,No murmers.

P/A – soft & Non-tender , Elastic , no organomegaly present , Bowel sound – present

- **Local examination; Rt lower limb**

1. Inspection;
- Blackish discoloration
- Shininess of skin
- Loss of hairs
- Muscle wasting
- Brittleness of nails

Burger's Test - Positive at 70* degree 3 . Palpation ;

a. Skin Temp. - colder than normal skin in affected limb

b. Peripheral pulses - Femoral, Popliteal were normal,Anterior tibial , Posterior tibial and Dorsalispedis were feeble.

c. Tenderness – Present

d. Sensation – Hyperesthesia

4. ASSESMENT OF CIRCULATION IN THE LIMB:

| Test | Right | Left |
|---|---|---|
| 1.Capillary RefillingTest | Decreased | Normal |
| 2.Venous RefillingTest | Decreased | Normal |
| 3.Burger'sPosturalTest | Present at 70* | Normal |

5. claudication pain; Grade 3
6. Claudication distance ; Around 50 metre
7. Burning sensation; Present

INVESTIGATION;

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CT OF BILATERAL LOWER LIMB PHERIPHERAL ANGIOGRAM (17.12.22)

**Impression**

1. Right common iliac artery:Atherosclerotic plaque noted for a length of 4cm causing 70-80% luminal narrowing . there is focal area of near complete occlusion.
2. Possible TAO (thrombo angitis obliterans) DIAGNOSIS: Thrombo angitis obliterans (PAD)

**TABLE:01 - ASSESSMENT CRITERIA**

| SUBJECTIVE | OBJECTIVE |
|---|---|

**TREATMENT**:

1. Manjishtadi Kshara Basti in Yoga Basti Pattern (1 Sitting):
- Administered in the morning on an empty stomach.

2. Jaloukavacharana (Leech Therapy):
- Done once every 5 days for a total of 4 sittings.
- Initiated 10 days after the completion of the basti treatment.

3. Manjishthadi Niruha:
- Quantity: 480ml.

4. Matra Basti with Guduchi Ghrita:
- Given in the afternoon after meals.
- Quantity: 60ml.
- Duration: 5 days.

**Table:2 -** Manjishthadi Kshara Basti (Yoga Basti) for 5 days.( 05.01.23)

| | 1st day | 2nd day | 3rd day | 4th day | 5th day |
|---|---|---|---|---|---|
| Morning (8:00AM) | Anuvasana | Niruha | Niruha | Niruha | Anuvasana |
| Evening (2:00PM) | | Anuvasana | Anuvasana | Anuvasana | |

- Anuvasana – guduchi ghrita – 60ml
- Niruha – manjishtadi kshara basti – 480ml

Table:3 - Manjishtadi kshara basti: ingredients

| | |
|---|---|
| Madhu | 80ml |
| Saindava lavana | 5gm |
| Guduchi ghrita | 60ml |
| Shatapushpa kalka | 40ml |
| Manjishtadi kashaya | 200ml |
| Gomutra | 100ml |
| Total | 480ml |

Manjishtadi kwatha dravyas-manjishta,triphala,katuki,vacha,haridra,daruharidra, nimbha,guduchi.

**Table :4 - Jaloukavacharana**

| | |
|---|---|
| • 20.01.23 | • 1st sitting |
| • 25.01.23 | • 2nd sitting |
| • 30.01.23 | • 3rd sitting |
| • 05.02.23 | • 4th sitting |

**OBSERVATIONS**

1. Pain Reduction:
- Previously moderate, now reduced to mild after treatment.

2. Sleep Quality:
- Disturbed sleep before treatment, slightly improved after treatment.

3. Burning Sensation:
- improved from moderate to mild after treatment.

4. Skin Color Changes:
- Previously moderate, now mild after treatment.

5. Claudication Distance:
- Significantly improved from up to 50m to 600m after treatment.

6. Peripheral Pulses:
- Feeble pulses improved slightly after treatment.

7. Burger's Test:
- Positive at 70º before treatment, improved to 80º after treatment.

8. Claudication Pain Severity:
- Reduced from Grade 3 to Grade 1 after treatment.

9. Capillary Refilling:

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- Improved from decreased before treatment to normal after treatment.

These positive changes across various parameters indicate a favorable response to the treatment. It's essential for the patient to continue follow-up visits to monitor progress and make any necessary
adjustments to the treatment plan. Additionally, lifestyle modifications and ongoing care is recommended to maintain and further improve the patient's health.

## II. DISCUSSION

The disease of Vatarakta occurred owing to the margaavarana pathology, which can very well correlated with Thrombo angitis obliterans [ peripheral arterial disease]. In the above case, having the predisposing factor as nidana sevana of smoking (tobacco), eating salty food (ushna-tikshna) lead to tridosha dushti and rakta dushti as tobacco is visha dravya. Since sira (arteries) is upadhatu of Rakta lead to pathology of vatarakta. The resultant obstruction in the flow of both vata and rakta at the peripheral vessels of lower limb manifested in leg pain, discoloration, burning sensation, ulceration and eventually gangrene. In such cases Samprapti vighatana (chikitsa) can be achieved by relieving avarana and correcting the vitiated vata and rakta. Guduchi is the drug of choice in the management of Vatarakta. Guduchi possess Tikta rasa, Madhura vipaka and Ushna veerya. It is Vatahara, Rakta prasadaka, . Studies on Tinospora cordifolia have shown that it is having anti-inflammatory, anti-oxidant and immunomodulatory action[12].

Manjishtadi kshara basti to be significantly effective in reducing leg pain, claudication and inhibited further manifestation of gangrene by reversing the pathology Manjishta and other drugs in the manjistadi Kashaya and Manjishtadi Niruha basti have raktaprasadaka property and indicated in Raktadusti conditions. The main drug manjishta is also known with synonym “vikasa” as it causes vikasana (vasodilation) in sira [7]. Added to it Rubiadin [8] present in Manjishta has antioxidant property. Gomutra arka acts as debriding agent.

Leech possesses various metabolically active substances in its saliva. It has hirudin, the anticoagulant and an anesthetic also. B-dellinsis is another compound that acts as an anti-inflammatory agent by inhibiting trypsin as well as plasmin. It also inhibits the action of the acrosin. Another anti-inflammatory agent is the eglins.The saliva also contains a vasodilator agent, and they are the histamine-like substances, the acetylcholine, and the carboxypeptidase A inhibitors. All these act to widen the vessels, thus, causing inflow of blood to the site [9]. And also act as sthanika chikitsa by removing dushta Rakta clearing margavarodha.

## III. CONCLUSION

An attempt was made to treat peripheral arterial disease, a surgical condition with medical management. As peripheral arterial disease (PAD) may required surgical intervention including amputation if complication occurs. The symptoms of TAO are well correlated with Vatarakta. Kshara Basti which is mentioned by Chakradatta , Manjishthadi Kwatha which is mentioned by Sharanghdhar and Jaloukavacharana which is mentioned by acharya sushruta, was tried here and has shown significant results.
Manjishthadi kshara Basti has got antagonistic qualities towards kapha due to gomutra and to
pitta as well as rakta as it contains manjishthadi kwatha which is having tikta, katu rasa and
ushna guna which acts as raktaprasadaka & tridoshahara and jaloukvacharana as raktashodhaka and raktaprasadaka.
These treatments address the underlying pathology and exhibit blood-purifying and dosha- balancing properties.

This integrative approach of jalukavacharana and manjisthadi kshara basti showcases the potential benefits of combining Ayurvedic principles and treatments with a focus on managing a surgical condition through medical means. It's essential to continue monitoring and adapting the treatment plan based on the patient's response and overall health.

Picture 01; showing images of affected foot before and after treatment

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