

## A case study of TAO (*Buerger's disease*) with an arterial ulcer - *Ayurvedic management.*

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### ABSTRACT

TAO or Buerger's disease is Progressive, Inflammatory, Segmental, Occlusive nonatherosclerotic condition involving medium sized and distal vessels affecting commonly male between 20-40 years of age <sup>[1]</sup>. Its synonym is Smoker's disease as its common cause is smoking. Causes also include Hormonal influence, autonomic overactivity, poor hygiene, recurrent minor feet injuries <sup>[2]</sup>. Clinical features include intermittent claudication, discoloration of involved limb, decreased local temperature, rest pain, ulceration and gangrene, absence/feeble distal pulses and recurrent migratory superficial thrombophlebitis <sup>[3]</sup>. In *Ayurveda* this disease is not mentioned but it can be correlated with *vata-pittaja gambhir vatarakta*, *rakta-twak-mansa dushti* and *strotodushti lakshanas* like *sanga* and *siranam grathi* <sup>[4]</sup>. Modern conservative treatment of TAO include vasodilator drugs, anticoagulants, dextran and prostaglandin therapy while surgical include Lumbar sympathectomy, Arterial reconstruction, Omentoplasty and amputation if gangrene occurs <sup>[5]</sup>. This treatment have its own limitations, is

costly and with no satisfactory prognosis.

This is a case study of 60 years old male patient diagnosed with TAO with arterial ulcer over lower left leg by using Arterial Doppler. Considering *Ayurvedic samprapti* he was managed by *Jalaukavacharana*, *Tila taila Abhyanga* and some *Ayurvedic* medicines. The assessment was made on the basis of relief in signs and symptoms and Arterial Doppler. A single case study shows satisfactory improvement in the disease.

**KEYWORDS:** TAO, *samprapti*, *vata-rakta*, *jalaukavacharana*, *Tila taila abhyang*.

### INTRODUCTION:

TAO is nonatherosclerotic inflammatory disorder involving medium sized and distal vessels. Smoking is main cause for both intimation and progression of this disease. In this case smoking index was >300, which is more prone to get this disease. Smoke contains carbon monoxide and nicotinic acid. By the combination of these two with blood, forms carboxyhaemoglobin which causes vasospasm and hyperplasia of intima.

Later on thrombosis and so obliteration of the vessels occurs <sup>[6]</sup>.

The signs and symptoms include intermittent claudication in foot and calf progressing to rest pain, numbness and tingling sensation in the extremity, ischemic changes in the limb, discoloration, ulceration and gangrene <sup>[7]</sup>. The use of vasodilators, prostaglandins reduced the complaints of the disease but they have their own limitations. Surgical treatment is very costly and not having promising results.

There is no such description available in *Ayurvedic samhitas* as this disease but considering pathogenesis, clinical features of this disease can be correlated with *vata-pittaja gambhir vatarakta, rakta-twak-mansa dushti* and *strotodushti lakshanas* like *sanga* and *siranam grathi*. Keeping this in mind patient was managed with *jalaaukavacharana, tila taila abhyang* and some *Ayurvedic* internal medications. This treatment gave satisfactory results.

## CASE REPORT:

A 70 years old male patient, a chronic smoker, driver by occupation presented with complaint of pain in left calf region during walking since 1 year. In the initial stage patient used to experience pain in left calf region after walking (intermittent claudication) of about 300-400 meters. Pain was relived after taking rest. Afterwards rest pain also developed with discoloration of left lower limb and loss of hairs. Later, ulcer developed above left ankle joint over the period of last 5 months. He had taken allopathic medicines for same from private hospital but complete cure was not achieved. Then he was referred to the surgeon, they advised him for amputation. Patient was not willing and got admitted in the *shalya* department of Govt. Ayurved College, Osmanabad on 21<sup>th</sup> April 2015.

## PAST HISTORY:

K/C/O- HTN since 7 years on treatment Tab. Amlo 5mg OD & Tab. Ecosprin 75mg OD.

No any history of DM, Koch's, surgical illness and drug allergy.

## Personal history

Appetite- Good

Diet- Mixed type

Sleep- Reduced since 6 months

Micturition-Normal

Bowel- Normal

Addiction- Cigarette smoking since 40 years (12-13 packets/day)

Tobacco chewing since 45 years

Chronic alcoholic since 40 years

## Family history:

Maternal – not specific

Paternal– not specific

Self- Married; 1 son 3 daughter– not specific

## GENERAL EXAMINATION

G.C.- Good

Pulse- 78/min

B.P.-130/84 mm of hg

Icterus- Not found

Pallor- Not found

Lymphadenopathy- Not found

## SYSTEMIC EXAMINATION

RS: AE=BE, Clear

CVS: S1S2 normal, No abnormal sound added

CNS- Conscious & Oriented

P/A- Soft and non-tender

### LOCAL EXAMINATION

Discoloration over skin of left leg

Skin of left leg- thin & shiny

Hairs loss of left leg

Decreased local temperature.

Peripheral pulsation-

Peripheral Arteries	Left lower limb	Right lower limb
Dorsalis pedis	-	+
Posterior tibial	-	++
Popliteal	-	++
Superficial femoral	-	++

### Ulcer examination-

- Site- above left ankle joint.
- Size-4\*3\*2cm
- Unhealthy granulation, Pale Yellow
- Edges are inflamed & sloping
- Margins- Inflamed and edematous
- Slough- present
- Base- indurated

### MANAGEMENT

Buerger's disease is thrombus in the arteries with inflammation. It can be correlated with *vata-pittaja gambhir vatarakta*, *rakta-twak-mansa dushti* and *strotodushti lakshanas* like *sanga* and *siranam grathi*. Keeping this in mind following therapy was planned. *Jalaukas* removes thrombus, inflammation and improve the collateral circulation.

1. *Jalaukavacharana*

### INVESTIGATION

Hb- 14.7gm%

WBC- 9800/cu mm

RBC- 4500 millions/mm<sup>3</sup>

Bleeding time-1 min 45 sec

Clotting time- 5 min 10 sec

Blood sugar level (random)-135 mg/dl

Urine routine- Nil

Urine Microscopic- pus cells 1-2/hpf

Epithelial cells few/hpf

Sr. Creatinine - 2.3 mg%

HbsAg- Non Reactive

HIV- Non Reactive

Arterial Doppler left leg- The left distal superficial femoral artery, the popliteal artery, left posterior tibial artery reveal severe stenosis with monophasic waveform with loss off reverse flow in distal superficial femoral and no flow detected in popliteal artery. (7<sup>th</sup> Jan 2015)

### DIAGNOSIS

TAO of left lower leg with arterial ulcer.

8 Settings were made each consist of 3 sets 4 *Jalaukas*.

Under all aseptic precautions first 6 settings were applied alternately after 4 days & last 2 settings were applied after 7 days. *Jalauka* once used were used after 8 days. This procedure was continuing for nearly 1 month. During this period hb of the patient was monitored.

Setting	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>
Date	24 <sup>th</sup> April	28 <sup>th</sup> April	2 <sup>nd</sup> May	6 <sup>th</sup> May	10 <sup>th</sup> May	14 <sup>th</sup> May	21 <sup>st</sup> May	28 <sup>th</sup> May
Site of application	4 <i>Jalaukas</i> at Thigh region, 4 <i>Jalaukas</i> below knee region, 4 <i>Jalaukas</i> over ankle region	As per first setting	As per first setting	As per first setting	As per first setting	As per first setting	As per first setting	As per first setting

## 2. *Tila taila abhyanga*

The days when *jalaukavacharana* was not done that time *Abhyanga* with lukewarm *tila tail* and *saindhava* was done over left lower leg for 10 min. This procedure was done for 1 month.

## 3. *Guduchi swarasa*

20 ml once a day *guduchi swarasa* was given at morning for 1 month.

## 4. *Mahamanjishtadi kwatha*

40 ml *kwatha* is added with same amount of lukewarm water after meal twice a day.

## 5. *Kaishor guggula*

250 mg tab. twice a day with lukewarm water after meal.

## 6. Daily dressing of an ulcer

Dressing was done with *Vranashodhaka taila* and later by *Jatyadi taila* when healing process started.

## PATHYAPATHYA

Patient was advised to do Buerger exercise, Ankle rotation, *Padanguli naman*, *anuloma viloma* daily for atleast 10 min.

*In ahara Purana yava, godhum, shali, shashti* rice with pulses of *arhara*, milk with *goghrita* were advised to take. [8]

## OBSERVATION AND RESULTS

Day	0 <sup>th</sup>	7 <sup>th</sup>	14 <sup>th</sup>	21 <sup>st</sup>	28 <sup>th</sup>	35 <sup>th</sup>
Date	23/4/2015	30/4/2015	7/5/2015	14/5/2015	21/5/2015	28/5/2015
Rest pain	+++	++	++	+	+	No pain
Intermittent claudication	40m	50m	80m	150m	350m	No claudication
Discoloration of skin	+++	+++	++	+	+	Normal skin colour
Local	Decreased	Slightly	Slightly	Increased	Normal	Normal

temperature		increased	increased			
Ulcer	-Unhealthy granulation with slough, size-4*3*2	-Unhealthy granulation without slough, size-3.2*2.5*1.7 cm	Healthy granulation, Size-2.4*1.6*1 Cm	Healthy granulation, Size-1*1*0.4cm	Healed	Healed completely

## DISCUSSION

**Jalaukavacharana-** *Jalauka*/leeches (*Hirudina medicinalis*) were used. They act by secreting biologically active substance in their saliva. The saliva which contains hundred or so different substances, include an antiplatelet aggregation factor, anesthetic, anti-inflammatory, anticoagulant and antibiotic agents<sup>[9]</sup>. Due to this, it helps in reducing size of the thrombus and pain.

As it has vasodilator effect it improve microcirculation by which fresh oxygenated blood reaches to hosts' affected areas prior to restoration of normal circulation<sup>[10]</sup>. This helps in increase of local temperature, reducing signs and symptoms of ischemia and hair growth over affected area.

**Tila taila (Sesamum Indicum) Abhyanga-**

*Tila taila* have *twaka prasada*, *mardavakara*, *varnakara*, *vataghna*, *mansasthairya* properties<sup>[11]</sup>. *Tila taila* is best for *abhyanga*<sup>[12]</sup>.

**Saindhava-** By providing all essential elements. It promote elimination of antagonist animal protein from the body which are difficult to degrade<sup>[13]</sup>. It is fast nervous stimulant.

*Abhyanga* helps in increasing circulation, especially to nerve endings, for smoothness of skin, nourishment and pacifies the local *dosha-dushti*.

**Guduchi**<sup>[14]</sup>

Latin name- *Tinospora cordifolia*

Ras- Madhur, Tikta, kashaya

Virya- Ushna

Guna- rasayani, shleshma-shonita vibandha prashamana, Kushtaghna

Due to above properties it helps in the vitiation of blood and improves immune system.

**Mahamanjishtadi kwatha**

*Manjishta* have *shleshmashothahara* and *kushtaghnya* property.<sup>[15]</sup>

It helps to dissolve the obstruction in the blood flow, to purify the blood and eliminate the waste products from the body. It also improve complexion of skin.

**Kaishor guggula**

*Guduchi*, *triphala*, *shuddha guggula*, *dantimula* are major constituents of *kaishor guggula*.<sup>[16]</sup>

*Guduchi* have *shleshma-shonita vibandha prashamana* property, *Triphala* have *kushtaghnya* and *Guggula* have *vishada*, *sukshama*, *lekhana guna*.<sup>[17]</sup>

It has antibiotic, anti-inflammatory properties due to which it helps in treating wound. It also works on the blood glucose level and corrects the problem of cellular resistance to insulin.

**CONCLUSION**

Ayurvedic treatment for TAO is result oriented, cost effective and decreases the chances of surgical procedure.

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