

## Upper extremity arterial occlusive disease managed through Leech application and Adjuvant Ayurveda medicines –A Case Report

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### ABSTRACT:

Upper extremity arterial occlusive disease is a rare condition in clinical practice. A 37-year-old woman diagnosed with left upper extremity arterial occlusive disease, came to OPD, Govt. Ayurveda hospital, Tripunithura, Ernakulam, Kerala, India, presented with gangrene and ischemic changes on her index and middle finger (fig 1&2). Even after stellate ganglion block twice, she had severe pain. She underwent treatment following *vatarakta* and *nijavrana chikitsa* protocol including *jaloukavacharana* at regular intervals. Ayurveda classics specifies different *sneha* preparations internally and externally in the treatment of *vatarakta*. Internal *sneha* preparations mentioned in *Brihatrayees* in the context of *vatarakta* includes *Jeevanthaydi ghrita*, *Madhuparnyadi taila*, and *Ksheerabala*. External *sneha* preparations are *Ksheerabala*, *Balaguduchyadi taila* and *Pinda taila* with *pancakarma* therapies and *jalouka*. The patient showed marked changes in symptoms such as pain relief and arrested gangrene progression. In upper extremity arterial occlusive diseases, we can adopt *vatarakta* and *nijavrana chikitsa* protocol even in gangrenous stage.

**KEY WORDS:** *Jalouka*, Leech, Upper extremity arterial occlusive disease, *Vatarakta*.

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### INTRODUCTION:

Arterial occlusive disease of the upper extremity is less common than lower extremity. Claudication, rest pain, ischemic changes, fingertip ulceration and gangrene are the symptoms of arterial occlusion. Aetiology includes atheroma, trauma, infection, and vasospastic disorders. [1] This condition can be diagnosed with Doppler ultrasound, duplex imaging, plethysmography, CT Angiogram and MR

Angiogram. Management includes diet changes, stoppage of smoking, drug therapy, endovascular procedures, and surgical procedures. Arterial occlusive disease pathogenesis is similar to that of *vatarakta*. Internal and external use of *sneha* along with para-surgical therapy- *raktamokshana* with *jalouka*, *sringa*, *soochi*, *alabu*, *siravyadha* and *prachana* are indicated to reduce the severe painful inflammation of *vatarakta* disease. [2] In this case study

*Vataraktha chikitsa* protocol and *nijavrana chikitsa* were adopted for the management of upper extremity arterial occlusive disease. After treatment patient showed pain relief, an increase in pulse volume and arrest in the progression of fingertip gangrene.

#### CASE HISTORY:

A 37 - year - old woman on 18.10.2021 presented to OPD Shalyatantra, Government Ayurveda hospital, Tripunithura, Ernakulam Kerala, India with extreme pain over index and middle fingers of her left hand with ischemic ulcers and gangrene of two fingertips (Fig -1 & 2). The tip of the index and middle finger appears to be blackish - blue in colour. The fingertip changes were associated with intolerable pain. The patient had no history of Diabetes Mellitus, Dyslipidaemia, Coronary Artery disease and smoking. She had a travel history to Qatar, 4 years back and worked there for 3 years where she had cold exposure every year especially from November to January. At that time she had pale blue changes in her fingertips with mild pain on cold exposure. But she discarded it. About one year back she returned to her hometown in Kerala. At that time all her symptoms were relieved. Pain and swelling appeared over the tip of the middle and index finger of the left hand after 6 months later. That progressed to ulcerations and blackish discolouration of fingertips. According to the patient, the pain was extremely throbbing and gets worsened at night and the pain-affected whole left hand and forearm. Then she consulted an allopathic doctor and took treatment for pain and ulcers. As the doctor

noticed the gangrene, he suggested Arteriography of the left upper limb in September 2021. CT Angiogram was done on 14.09.21. C.T- Angiogram of left upper limb revealed the narrowing in calibre of left ulnar artery at palm with faint contrast opacifications of a superficial palmar arch and digital branches with no significant flow in digital branches at a phalangeal level (Fig- 3&4). She was referred to Kottayam medical college, where she underwent two stellate ganglion block. The first ganglion block was done on 21.09.21. Even after two ganglion blocks, there was no pain relief, so she opted Ayurvedic treatment. She was admitted at Ayurveda hospital Tripunithura on 18.10.21. After conservative management and *Jaloukavacharana* following *vatarakta* and *nijavrana chikitsa* protocol all her symptoms became mild and clinical progression of disease was arrested.

#### METHODOLOGY/TREATMENT GIVEN

Conservative treatment was done under *vatarakta chikitsa* protocol.

*Samanya chikitsa* - Internal medications and external medications (Table-2)

*Shodhana chikitsa*

1. *Jalouka avacharana* from 12.11.21, repeated at 3 days interval up to 12.01.22 (Fig -5 & 6)
2. *Snehapanam with thiktaka ghritam* 9 days (Starting from 25ml, 50ml, 75 ml, 100 ml, 125ml, 125ml, 125ml, 150 ml, last day 150ml)
3. *Abhyanga with kseerabala & usnodaka snanam* (29.01.21 to 31.01.21)
4. *Virechanam* on 01.02.2022 morning 6am with *Avipathi choorna* (25 gm) with hot water, 4vegas noted.

Table 1: Clinical features and investigations (Before treatment):

Examination of left upper limb 18.10.2021	Observed Findings
Subjective findings	Pain over left forearm, hand, fingers aggravated at night with sleep disturbances.
Inspection	Blackish blue discolouration of index and middle fingertips, with ulcerations and swelling of affected fingers
Palpation	Pulses of the radial artery, brachial artery of the left upper limb felt feeble with low pulse volume. The Left hand felt cold. Tenderness on index and middle finger.
Other investigation	Blood (28.10.21) Hb 12.4 gm%, T.WBC count 7300cells/cu mm, ESR 47mm/hr, FBS 81 mg% PPBS 104 mg% , HDL47mg%,LDL110mg%, Serum Triglycerides 90 mg% ,VLDL 18 mg% Total cholesterol 174 mg%
CT Angiogram (14.9.21) Left upper limb	Narrowing in calibre of left ulnar artery at palm with faint contrast opacifications of a superficial palmar arch, digital branches with no significant flow in digital branches at the phalangeal level. Nonvisualization of a deep palmar arch and the radial digital branch to the second finger. Radial artery shows normal calibre and contrast opacification in the forearm.

Table 2: Timeline along with internal medications and external medications:

Duration	Medications	Dose	Remarks
22.12.21 to 01.02.22	<i>Triphalakashaya prakshalana</i>	Quantity sufficient	Ulcer healing
20.10.21 to 01.02.22	<i>Dressing with jatyadi ghrutam</i>	Quantity sufficient	Ulcer healing
24.10.21 to 3.11.21	<i>Karaskara ksheera dhara</i>	Quantity sufficient	Reduce inflammation
4.11.21 to 30.12.21	<i>Madhuyashtyadi thaila dhara</i>	Quantity sufficient	ulcer healing, pain relief
22.12.21 to 27.12.21	<i>Pinda thaila abhyanga</i>	Quantity sufficient	pain relief
18.10.21 to 19.01.22	<i>Punarnavadi kashayam</i>	90ml bd before food	Inflammation reduced
18.10.21 to 19.01.22	<i>Madhuyashtyadi tailam<sup>3</sup></i>	10ml evening after food with kashaya	Ulcer healing
20.10.21 to 29.11.21	<i>Triphala ghrutam</i>	15 ml bd after food	Ulcer healing
29.11.21 to 19.01.22	<i>Thiktaka ghrutam</i>	15ml morning after food	Pain relief, ulcer healing
20.10.21 to 27.11.21	<i>Avipathy choornam</i>	5 gm with hot water	burning pain relief
18.11.21 to 19.01.22	<i>Guggulupancapala choornam</i>	10 gm with honey	minimize infection

Table-3: Clinical features and investigation (After treatment):

Examination of left upper limb on 02.02.22	Observed Findings
Subjective findings	No pain on left forearm, hands, fingers
Inspection	Progression of gangrene proximally in both index and middle finger arrested.
Palpation	Radial artery normal in volume, brachial artery normal in volume, temperature of left forearm and hand were normal, no tenderness on forearm, hand, and fingers.
Other investigation	Blood report (02.02.2022) Hb 12.4 gm %, T.WBC count 7500cells/cu mm ESR 50 mm/hr , FBS 42 mg%, PPBS 74 mg% HDL 28 mg%, LDL 50 mg%, Serum Triglycerides 120 mg% Total cholesterol 102 mg% , VLDL 24 mg%

Clinical Images:



Fig-1: Ulcer on middle &amp; index finger (18.10.21) lateral view



Fig-2: Ulcer on middle &amp; index finger (18.10.21) dorsal view

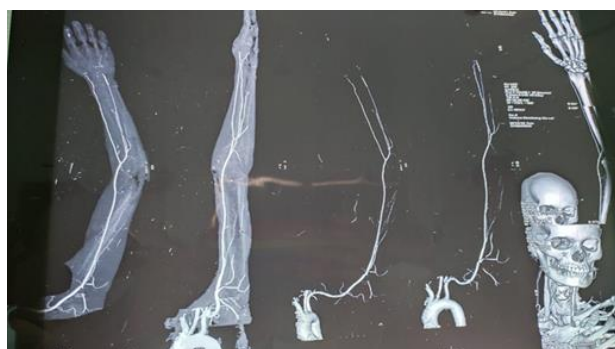


Fig-3: CT angiogram of left upper limb (14.09.21)

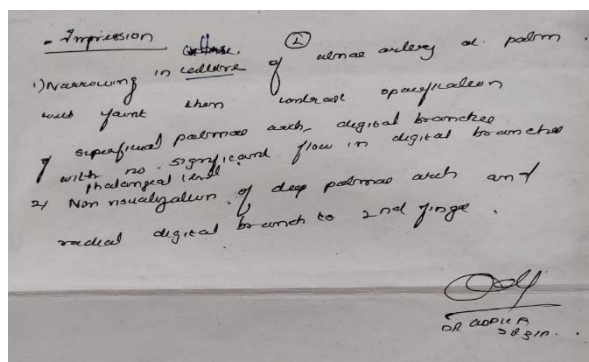


Fig-4: Report CT angiogram of left upper limb (14.09.21)



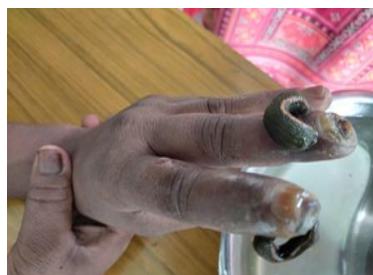


Fig-5: Jalouka application on ulcer site



Fig-6: Jalouka application on wrist



Fig-7: After treatment arrested progression of gangrene



Fig-8: After treatment view of dorsal surface of hand

### RESULT & DISCUSSION:

After treatment following *vatarakta* and *nijavrana chikitsa* protocol, the patient got complete pain relief and sound sleep. The progression of gangreneous stage of index and middle finger tips were arrested (fig -7 &8). Cold exposure seems to be a risk factor for the pathogenesis of upper limb arterial occlusive disease in this patient. This lead to vitiation of *vata* and *sthanasamsraya* in *sira* of upper extremity similar to *vatarakta*. In early stage, the patient had features of Raynauds phenomenon and later progressed to upper limb arterial occlusion which leads to extreme pain over the left upper extremity, digital ulceration and eventually to gangrene.

*Vrana shodhana*, *Vrana ropana* and pain relief were achieved through external medications. *Karaskara ksheeradhara*, *Triphala kashaya kshalana*, *Jatyadi ghrita* dressing, *Madhuyashtyadi dhara*, having *vranshodhana ropana* property

makes the ulcer healing faster. *Pinda thaila abhyanga* as indicated having an analgesic effect.

*Thiktaka ghrita snehapana* showed analgesic and healing effect. *Jalouka avacharana* arrested the progression of gangrene in fingers with analgesic and healing effects. Hirudin, present in leech saliva is a polypeptide that inhibits thrombin, a key component of the coagulation cascade.<sup>[4]</sup> *Acharya Vagbhata* indicate leech application in the *graditha ratka*, similar to plaque of thrombus. Saliva secretion containing hirudin may dissolve the plaque at arterial wall and improve blood circulation to the tissue. Histamines also have dilating effect on the blood vessel and can improve circulation <sup>[5-6]</sup> Dislipidaemia is a main risk factor of chronic peripheral arterial occlusive disease. This patient had low total

cholesterol, LDL and Triglyceride levels before and after treatment. (Table- 1, 3)

#### CONCLUSION:

Upper extremity arterial occlusive disease with fingertip gangrene is a rare clinical condition. In this case study *vatarakta* and *nijavrana chikitsa* protocol is followed. The patient with left upper extremity arterial occlusive disease and gangrene of index and middle finger tips got complete pain relief and arrest in the progression of gangrene. In future for the management of upper extremity arterial occlusive diseases, we can adopt *vatarakta chikitsa* protocol even in gangrenous stage.

#### LIMITATION OF STUDY:

Since the upper extremity arterial occlusive disease is rare, clinical trials are not practical. *Shodana, samana* sequences of *Vatarakta chikitsa* are not followed exactly, because the pain management and arrest of gangrenous stage are the main aim. Even after 7 days *snehapana, samyak snigda lakshana* was not achieved, so continued for 9 days.

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#### INFORMED CONSENT:

The written informed consent has been obtained from patient for treatment and publication of data.

#### REFERENCES:

1. Somen Das. A Concise textbook of surgery, Diseases of Arteries. Dr. S. Das publication, Calcutta. 1<sup>st</sup> edition 1994, pp-149-152.
2. Vaidya Bhagwan Dash. Charaka Samhita, Chikitsa Sthan 29/36. Chaukhamba Sanskrit series office, Varanasi: Reprint 2013. Pp 98.
3. K R Srikantha Murthy, Ashtanga Hridaya, Chikitsa Sthan 22/41-44. Chowkhamba Krishnadas Academy, Varanasi. 2006. Pp 520
4. <https://www.cureus.com/articles/62354-improving-symptoms-of-peripheral-artery-disease-with-hirudotherapy> [Last Accessed on 2022 February 22]
5. Tripathi B. Astanga Hrdayam, Sutra Sthana 26/53, Chaukhambha Sanskrit Pratishthan, Varanasi: 2014. pp-292.
6. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3377041/> [Last accessed on 2022 February 22].

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