



AYURVEDIC MANAGEMENT OF DEEP VEIN THROMBOSIS: A CASE REPORT

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ABSTRACT

Deep vein thrombosis or deep venous thrombosis (DVT) is a serious life threatening condition that may lead to sudden death. Till today, there is no satisfactory management of this disease is available in modern medical sciences. It involves intravenous Heparin, Warfarin and Venous Thrombectomy. A 26 years old male patient having right lower limb DVT was successfully treated with Ayurveda by *Jalaukaavcharana* (Leech therapy) and oral intake of *Guduchi-patra swarasa* (Juice of *Tinospora cordifolia* leaves). The patient was cured by this Ayurvedic regimen within one month. The Venous Doppler showed dramatic changes before and after the treatment. It proved that Ayurvedic management of Deep vein thrombosis is faster, cost

effective and easily available for a common man.

KEYWORDS: DVT, *Guduchi-Patra Swarasa*, Leech, Hirudin.

INTRODUCTION

Deep vein thrombosis is also known as Phlebothrombosis. It is a semisolid clot in the vein which has got high tendency to develop pulmonary embolism and sudden death. The three main predisposing factors are stasis, increased blood coagulability and injury to the vessel

wall which are known as “Virchow’s Triad”. Fever, swelling, tenderness, pale/bluish shiny calf, positive Homans’, Moses’ and Neuhof’s signs are the main clinical features of DVT.^[1] It occurs at an annual incidence of about 1per 1000 adults. Rates increases sharply after age 45 years, and are slightly higher in men than women in older age.^[2] It continues to be underdiagnosed and undertreated. Awareness among Indians regarding this potentially life-threatening disease is low. Acute DVT is followed by a complex process of attempted recanalization of the vessel lumen which is mediated by leukocyte infiltration and cell mediated thrombolysis. Re-thrombosis would naturally impede with the recanalization process and recurrent process and recurrent thromboembolism of up to 47% has been reported in patients inadequately anti-coagulated in the first three months after an initial proximal DVT. In the lower limb, proximal ilio-femoral DVTs tend to cause more acute and chronic complications than distal calf vein DVTs. Calf vein DVTs tend to re-canalize faster than proximal ones.^[3]

In Ayurveda, this disease can be correlated with *Siragata kupita vata* (vitiated Vata Dosha in veins)^[4] and *Siraja granthi*.^[5] The word ‘leech’ came from an English word ‘laece’, which means ‘physician’. The word later became Leech. The treatment of disease conditions with medicinal leeches is termed as Hirudotherapy (*Jalaukavacharana*). Hirudotherapy is one of the most ancient healing methods documented in the history of medicine. The first documented evidence of leeches is found in *Sushruta Samhita*. Leeches are propagated for therapeutic purpose (hirudiniculture).^[6]

CASE REPORT

A male patient 26 years old, driver by profession permanent resident of Osmanabad district (Maharashtra), came to shalya tantra OPD of Govt. Ayurvedic college and hospital, Osmanabad (Maharashtra) with OPD no. 22368 with complaints of pain and swelling over right limb, difficulty in walking, pain aggravating with walking and shiny skin of the limb for one month.

Past history

H/O febrile illness along with nausea, anorexia, generalised weakness one month before. None of family members has history of DVT/ varicose veins. He had taken analgesics for few days but didn’t get relief.

Urine examination

Routine A.B- nil Sugar- nil
 Microscopic Pus cells- nil RBCs- nil
 Casts – nil Crystals- nil

Venous Doppler study of right limb- (Dated- 22-08-2017)

1. Common femoral vein, superficial femoral vein completely thrombosed; show loss of compressibility and are filled with echogenic thrombus.
2. Partial thrombus with flow in re- canalization part of lumen in Anterior, posterior Tibial and peroneal veins.

METHODOLOGY

The patient was treated with *Guduchi-patra swarasa* (fresh juice of *Tinospora cordifolia* leaves) orally twice daily for 30 days. *Jalaukaavcharana* (leech application) was done twice a week. Two groups of total 10 leeches were made, each group with 5 leeches. The groups were used alternately over upper limb and lower limb, one group once a week. After one month, the venous Doppler was revised. No any concomitant allopathic medicine was given to the patient during this whole treatment period. After the application of leech, dressings were done properly for one day. The patient was also advised for foot elevation.

RESULTS

The Excellent responses were noted on various parameters in this case as shown in images. Pain, swelling, gait were improved significantly. The circumference of upper thigh, mid-thigh and leg were reduced. The Venous Doppler of right limb also showed a dramatic reduction in the thrombosis.

Table 1: Subjective criteria.

DOMAIN	Before treatment	After treatment
Wells criteria score	4	0
Pain (Visual Analogue Scale)	8	1
Homans' sign	Present	Absent
Moses sign	Present	Absent
Neuhof's sign	Present	Absent
Lintorn's test	Positive	Negative
Circumference- Thigh (below 25 cm from Ant. Superior iliac spine)	50 cm	47 cm
Leg	35 cm	32 cm

**Before Treatment****After Treatment****Objective criteria****Comparison of the Venous Doppler (right limb) of the case before and after treatment**

Serial no.	Veins of right lower limb	Before Treatment (22-8-2017)	After Treatment (27-9-2017)
1.	Common femoral vein	Complete thrombus	Partial thrombus
2.	Superficial femoral vein	Complete thrombus	Partial thrombus
3.	Popliteal vein	Complete thrombus	No thrombus
4.	Anterior Tibial vein	Partial thrombus	No thrombus
5.	Posterior Tibial vein	Partial thrombus	No thrombus

DISCUSSION

The case was treated with minimal medications which were cost effective and easily available. As the disease was considered as *Siraja granthi* and *Siragata vata*, the single oral drug selected here was such that it acts on Tridosha. *Guduchi* is one of the most valued herbs, which acts as *Rasayana* (rejuvenant). It is also known as *Bhishak priya* (favourite drug of physicians).

Guduchi (*Tinospora cordifolia*) has *Tikta- Kashaya rasa* (bitter- astringent taste), *Ushna virya* (hot potency), *Madhura vipaka*, *Guru-Snigdha guna*. Due to *Ushna* and *Snigdha* properties, it suppresses *Vata dosha*. *Tikta* and *Kashaya rasa* suppresses *Pitta* and *Kapha dosha*. So, it is *Tridoshashamaka*. It also has *dipana-pachana*, *Vedanashamaka*, *Pittasaraka*, *Krumighna*, *Raktashodhaka*, *Raktavardhaka* properties.^[7]

According to *Acharya Charaka*, *Amruta* (*Tinospora cordifolia*) is *Sangrahika-Vatahar-Dipniya-Shleshma-Shonita-vibandha prashmananam*.^[8] It helps in removing the *Vivandh* (obstruction) present in the veins, whether, it is of *Rakta* or *Kapha dosha*.

It has *Berbarine*, *Palmatine*, *Tembetarine*, *Magnoflorine*, *Tinosporin alkaloids*; *Glycosides* like *Furanoid*, *palmatosides*; *Diterpenoidlactones* like *Furanolactone*, *Tinosporon*; *Steroids* like *b-sitosterol*, *d-sitosterol*, *giloinsterol*. It has *anti-spasmodic*, *anti-pyretic*, *anti-inflammatory* properties. It is found to be more effective than *acetylsalicylic acid* in acute inflammation.^[9]

It has been already proved that leech therapy has a significant role in DVT. The salivary glands' secretion of medicinal leech contains more than a hundred bioactive substances which are responsible for the desired medical effects like *Hirudin*, *Hyaluronidase*, *Destabilase*, *Eglins*, *Calins*, *Carboxylase A inhibitor* etc.^[6] *Hirudin* present in it is a powerful anticoagulant which prevents conversion of *fibrinogen* to *fibrin*, so inhibits blood coagulation. '*Hyaluronidase*' possesses antibiotic property. It also breaks down the *hyaluronic acid*. It is referred as "spreading factor" as it opens the interstices, paving the way for other active substances in leech saliva to reach the deeper tissues. '*Destabilase*' enzyme hydrolyzes the *epsilon-(gamma-glutamyl)-lysine* bonds as a result of *fibrin* stabilization by factor *XIIIa* in the presence of Ca^{2+} . '*Eglins*' are the anti-inflammatory proteins which inhibit the activity of *alphachymotrypsin*, *chymase*, *subtilisin*, and the neutrophilic proteinase *elastase* and *cathepsin G*. '*Calin*' inhibits blood coagulation by inhibition of *collagen-*

mediated platelet aggregation and adhesion. It also inhibits von willebrand factor dependent platelet adhesion to collagen. Acetylcholine and Histamine like substances present in leech are vasodilator. 'Carboxypeptidase A inhibitor' increases the inflow of blood at the site of bite. The risks of DVT like pulmonary embolism and stroke are, therefore, prevented by the only use of leech therapy.

So, the leech therapy and oral intake of *Guduchi- patra swarasa* are sufficient to cure this disease as well to avoid recurrence.

CONCLUSION

By using pure Ayurvedic regimens, DVT can be treated faster than the modern medicines. So, it has been proved that Ayurveda is not only useful in chronic diseases but also cures acute conditions like DVT. Ayurvedic management of Deep vein thrombosis is faster, cost effective and easily available than that of the modern medical sciences. One can get rid of long term use of the multi-drugs to treat and to prevent the recurrence of DVT. Phlebothrombosis is now quickly relieved in today's busy life.

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