

AN AYURVEDIC APPROACH TO VARICOSE VEINS DURING PREGNANCY A CASE STUDY

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ABSTRACT

Pregnancy is presumed to be a significant contributory factor in the increased incidence of varicose veins in women. Approximately 20% - 50 % of pregnant women worldwide suffer from varicose veins. Valve dysfunction, venous pressure and sexual hormones play a key role in the onset and progression of the disease. In pregnancy, there is a decrease in the tension of the blood vessels leading to slowed blood flow and resultant oedema, which leads to substantial pain, night cramps, numbness, tingling sensation, and itching. As a result of this, varicose vein formation occurs in predisposed women. A 29-year-old pregnant female with a gestational age of 27 weeks and 2 days presented with aching type of pain and cramps in both legs for 4 months associated with heaviness and inability to stand for a long duration to do her daily activities. The patient was diagnosed to be a case of *sira granthi* and treated with *sthanika upanaha* with *Punarnavadi churna* daily throughout pregnancy. Internal medicines, along with compression stockings, were also advised. The patient was clinically assessed, and Aberdeen Varicose Vein Questionnaire scores showed remarkable improvement after the completion of treatment. This single case report demonstrates that the case of *garbhini* with *sira granthi* can be successfully managed with *shamana aushadhi* and *sthanika upanaha*.

Keywords: Ayurveda, pregnancy, varicose veins, *sira granthi*, *Shamana aushadhi*, *sthanika upanaha*.

INTRODUCTION

A woman's health during pregnancy is crucial, as it not only affects her well-being but also plays a vital role in her child's development and future health. During pregnancy, many women experience various physical changes, including the development of varicose veins, which can impact their comfort and overall health. Varicose veins are normal saccular dilated, elongated and tortuous alteration in the saphenous veins and their tributaries¹. Varicose veins in pregnant women are a common pathology diagnosed in every fifth woman of reproductive age, with the development of the disease correlating with childbirth in 96% of cases. It often appears in an extensive, rarely small saphenous vein system and begins with the inflow of the vein on the shin. The influence of the hormonal factor on the venous wall occurs in the first trimester of pregnancy. The increase in the size of the pregnant uterus from the second trimester increases intra-abdominal and venous pressure in the lower limbs and small pelvis, which is exacerbated by the presence of a large fetus, multiplicity and polyhydramnios. This influence is especially pronounced in the last weeks before childbirth. As a result, various variants of varicose veins make up 5.6% of the total extragenital pathology during pregnancy. It is a common clinical entity in practice that affects the lower limbs and is associated with cramps.

In *Ayurveda*, it can be correlated to *sira granthi* (formation of *granthi* in the veins), which is described under *Granthi-apachi-arbuda-galaganda adhyaya* explained by Acharya Sushruta and Acharya Vagbhata². *Vrutta* (circular), *unnatha* (elevated), and *vigraditha shopha* are the features of *granthi* as per Acharya Sushruta. *Sira sankocha* (contraction), *sira utsedha* (elevated veins), *vishoshana* (dryness) and *vakreekarana* (tortuosity) are the clinical features of *sira granthi* in Ayurvedic compendiums³. The standard treatment for varicose veins during pregnancy is primarily conservative through valve strengthening. Still, in most cases, operative procedures like stripping method, tying, blocking (complicated by hema-

toma formation, infection and saphenous nerve irritation), endo-venous radio treatment ablation, and sclerotherapy are preferred. Hence, there is a need to search for effective treatment modalities in alternative medicine. This case of *garbhini sira granthi* was successfully treated with *sthanika upanaha* and adjuvant Ayurvedic management with a positive outcome.

AIMS AND OBJECTIVES

1. To understand the disease and its pathology.
2. To assess the efficacy of *shamana aushadhi* and *sthanika upanaha* with *Punarnavadi lepa* in managing *sira granthi*.

MATERIALS AND METHODS

A pregnant female patient aged 29 years visited the OPD of Dept. of Prasuti Tantra and Stree Roga of SSCASRH on 09/05/24 with complaints of aching type of pain and cramps in both legs associated with heaviness & inability to stand for a long duration to do her daily chores for 4 months.

Case Report

A 29-year-old pregnant female with a gestational age of 27 weeks and 2 days (G2P1A0L1D0) presented with aching type of pain and cramps in both legs for 4 months. She experienced heavy metal and an inability to stand for a longer duration to do her day-to-day activities. Long-term and continuous work aggravates symptoms and is relieved by rest, foot-end elevation, and hot applications. There is no history of gestational diabetes, gestational hypertension or other comorbidities associated with pregnancy. The patient had taken two doses of tetanus toxoid injections. The antenatal checkups to date were normal.

Poorva vyadhi vrittanta

Medical history - Nasal bleeding occasionally on excess heat of body (past history)

Surgical history -LSCS- 4 years back

Vaiyaktika Vrittanta

- **Ahara:** Non- non-vegetarian; 3 times a day (regular intervals)
- **Vihara:** Reduced sleep quality at night because of pain and numbness.
- **Nidra:** Disturbed; 6-8 hours' sleep; night cramps and occasional pain affect sleep quality.
- **Vyasana:** Nil
- **Manasika bhava:** Chinta, shoka
- **Agni:** Vishamagni to mandagni
- **Kostha:** Madhyama

Rajo Vrittanta

- Age of menarche: 12 years
- LMP: 29/12/2023
- Menstrual cycle: Regular – 4 - 5 days flow / 28-30 days interval.
- Amount: Moderate
- Day 1 - 2 pads/day with 80% soakage

- Day 2 - 3 pads with 100% soakage
- Day 3- Day 4 - 2 pads/day with 60% soakage
- Day 5 - spotting
- Foul odour: Absent
- Colour: Dark red
- Clots: Present; approximately 0.5 – 1 cm
- Pain: Present (moderate pain on 1st day over the lower abdomen, lower back and calf muscle)

Marital Life: 5 years

Coital history: 2-3 times per week before pregnancy

Contraceptive history: Nil

Obstetric History: G2P1A0L1D0

L1 – LSCS due to failure of induction and two loops of cord around the neck

4 years back, a Male child with a birth weight of 3.250 kg.

Lactational amenorrhoea for 4 months, and weaning started after 6 months.

Ashta Sthana Pareeksha

Nadi	82 bpm, Vata – Pitta Pradhana
Mala	Prakruta, once a day
Mutra	Prakruta, 7-8 times a day
Jihwa	Ishat lipta
Shabda	Prakruta
Sparsha	Ushna
Drik	Prakruta
Akruti	Madhyama

Dashavidha Pareeksha

Prakruti	Pitta - Vata
Vikruti	Vata – Pitta Pradhana Tridosha, Twak, rasa and raktha
Sara	Madhyama
Satmya	Mishra Rasa Satmya
Samhanana	Madhyama
Vaya	Madhyama
Pramana	Madhyama
Ahara Shakti - Abhyavarana Shakti	Madhyama
Jarana Shakti	Pravara
Vyayama Shakti	Madhyama
Satwa	Pravara

Manasika Sthithi: Chinta, Shoka (Rajo Tamo guna pradhana)

General Examination

- Temperature: 97.2°F
- Pulse: 76 bpm
- BP: 120/80 mm Hg
- Weight: 66.3 kg (24 weeks)
- Height: 157.4 cm
- BMI: 26.68 kg/m²
- Pallor, icterus, cyanosis, clubbing, lymphadenopathy, oedema: Absent

Samsthānika Pareeksha

- ❖ CNS: Patient is conscious and oriented to time, place and person.
- ❖ CVS: S1 S2 heard, no murmurs.
- ❖ R/S: No vesicular breath sounds heard, no added sounds.

Obstetric Examination

- LMP: 29/12/2023
- POG: 27 weeks, 2 days

- EDD: 04/10/24
- Breast Examination: Bilaterally symmetrical, enlarged; No discharge from the nipples.
No palpable mass; Montgomery's tubercle + secondary areolar changes +
- P/A Examination: Inspection – Striae gravidarum +
Palpation : Ut ~ 24 weeks, FM +
Auscultation : FHR – 146 bpm.

Investigations

- Blood grouping, Rh typing: B positive
- Injection T.T dose 1 – 18/04/24
- Injection T.T dose 2 – 27/06/24
- HIV - non-reactive
- HbsAg - non-reactive
- VDRL - non-reactive
- Hb – 11.3 gm % (15/02/24)
- TSH – 2.4 (15/02/24)
- RBS – 109 gm/dl

Date	POG	BP	Weight	Uterus	Foetal movement	FHR	Pedal oedema
09/05/24	18 weeks, 6 days	120/70 mm Hg	63.60 kg	18 weeks	+	136 bpm	-
23/05/24	20 weeks, 6 days	120/90 mm Hg	63.90 kg	20 weeks	+	140 bpm	-
27/06/24	25 weeks, 6 days	110/80 mm Hg	66.10 kg	20 weeks	+	134 bpm	-
04/07/24	26 weeks, 6 days	110/70 mm Hg	66.30 kg	24 weeks	+	140 bpm	-

Local Examination

	Right lower limb	Left lower limb
Discolouration	The blackish discolouration is present on the posterior aspect of the shin and the anterior part of the ankle joint.	The blackish discolouration is present on the posterior aspect of the shin and the anterior part of the ankle joint.
Swelling	Absent	Absent
Site of dilation	The posterior aspect of the knee joint extends into the calf muscle	The posterior aspect of the knee joint extends into the calf muscle
Pain	Moderate pain	Moderate pain
Itching	Moderate itching	Mild itching
Burning sensation	Intermittent burning sensation	Intermittent burning sensation
Skin changes	Blackish discolouration present – no ulceration	Blackish discolouration present – no ulceration



Local examination: Before treatment (Fig 1 Posterior aspect of right and left leg; Fig 2: Anterior aspect of the right ankle joint and foot)



Fig 3: Posterior aspect of right leg)

Nidana Panchaka

➤ ***Nidana***

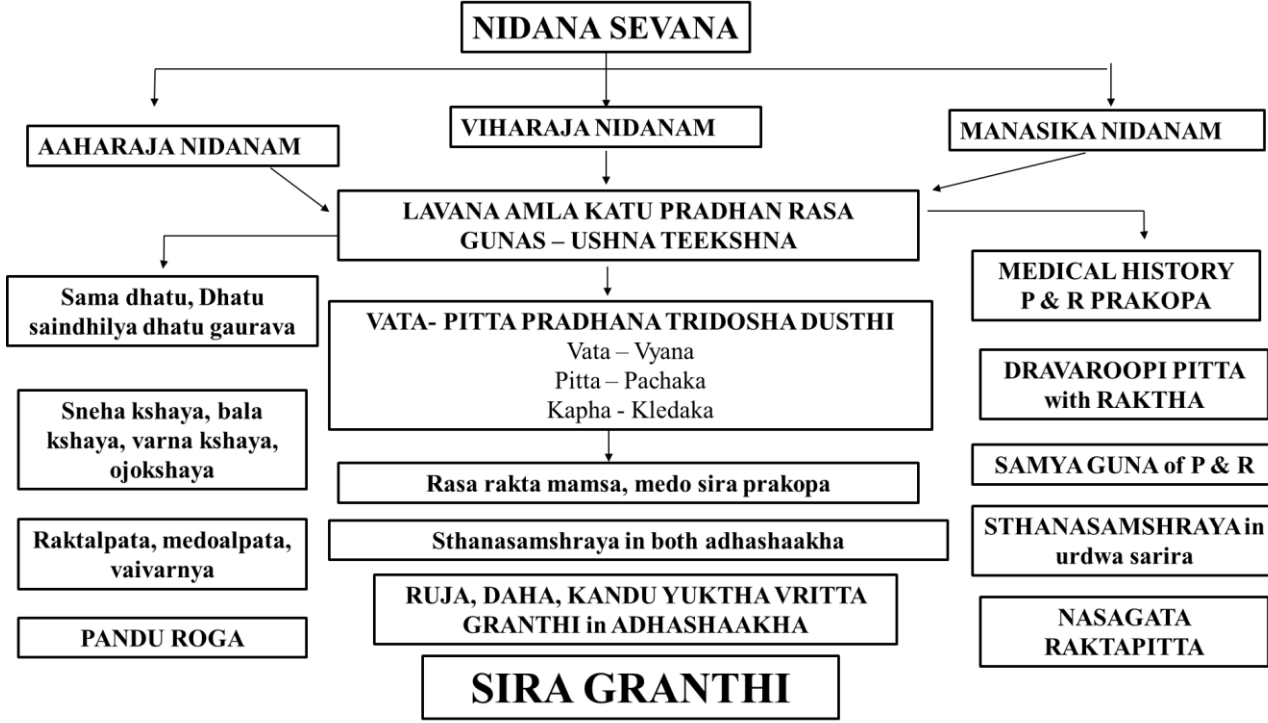
- *Aharaja: Lavana, katu-amla pradhana ahara sevana.*
- *Viharaja: Excessive standing, weight gain*
- *Manasika: Atichintana, shoka*

➤ ***Poorvaroopa: Pain and fatigue during long-standing (अव्यक्त)***

➤ ***Roopa: Ruk, gurutwa and cramping of both legs with the appearance of tortuous veins***

➤ ***Upashaya: Rest, foot end elevation, wearing stockings, hot applications.***

➤ ***Anupashaya: Standing for a long duration.***



Samprapti Ghataka

Dosha	Vata – Pitta Pradhana Tridosha
Dushya	Dhatu - Rasa, Rakta; Upadhatu - Sira
Agni	Jataragni mandya
Srotas	Rasavaha, Raktavaha
Sroto Dushti	Sanga
Udbhava Sthana	Amashaya
Sanchara Sthana	Adhoga sira
Vyakta Sthana	Adhoga sira
Rogamarga	Bahya
Sadyasadhyata	Krichrasadhya

Vyadhi Vinishchaya: Saphama masa garbhini with siraja granthi

(Pregnancy with varicose veins) - ICD-10 code O22. 0.

Chikitsa Sutra

सिराग्रन्थौ त्वभिनवे तैले साहचरं पिबेत्

उपनाहञ्च वातहरैर्बस्तिकर्म च कुर्यात् सिराव्यधञ्च॥७॥ (A. San 35/7)

TREATMENT TIMELINE / COURSE OF DISEASE

DATE	INCIDENCE / INTERVENTION
14-02-2024	The patient got her UPT +
21-02-2024	Pregnancy confirmed - Early pregnancy scan – ASLIUG of 7 weeks 2 days.
22-04-2024	The patient began experiencing the aching type of pain and cramps in both legs (mild)
22-05-2024	Anomaly scan – ASLIUG of 20 weeks 5 days
23-05-2024	The patient consulted OPD regarding the severity of symptoms and excruciating pain. Medication started
04-07-2024	1 st follow-up after taking oral medications - 26 weeks 6 days
04-08-2024	2 nd follow-up – subsidence of symptoms
26-09-2024	Pregnancy terminated through LSCS – male baby born at 3:45 pm – Birth weight – 3.1 kg.
	OPD: Outpatient department

SHAMANA AUSHADHIS – throughout pregnancy

1. *Sariva churna* as *ksheerapaka* – 50 ml OD on an empty stomach in the morning
2. *Punarnavadi upanaha* for external application
3. *Dhanwantaram vati* 1-1-1 after food
4. *Kamadudha* with *mouktika*- 1-1-1 before food
5. *Drakshamalakadi lehyam* -1 tsp twice daily with milk after food
6. Compression stockings daily



Fig 4 : Punarnavadi upanaha



Fig 5 : Compression stockings

OBSERVATION AND RESULTS

SL no:	Subjective	Before treatment	After treatment
1	Pain - VAS scale	Present - VAS score 8 (Very severe)	Mild - VAS score 3 (mild)
2	AVVQ score	14	8
3	Elongated, prominent, dilated and tortuous, hard vein below both knee joints at the posterior aspect, i.e. above calf muscle over both foreleg	Presence of tortuous veins in the posterior and lateral aspects of bilateral leg; anterior aspect of bilateral feet	Absence of tortuous veins in bilateral leg and foot
4	Cramps in both calf muscles after making a sudden move like standing up	Present	Absent
5	Heaviness in left and right leg	Present	Absent
6	On and off pricking type pain in both legs (Pain increased explicitly at night and long-standing)	Present	Absent
7	There is an itching sensation over the site of varicosity	Present	Absent



Fig 6 : Before treatment



Fig 7 : After treatment

DISCUSSION

The primary causes of varicose veins are the incompetency of the valves and the weakness in the walls of the veins. The secondary causes include obstruction of venous outflow due to pregnancy, fibroid,

ovarian cyst, pelvic cancer, ascites, and deep vein thrombosis. The common risk factors of varicose veins include prolonged standing, older age, obesity, hormonal replacement therapy, etc. It has significant morbidity rather than mortality and requires treatment in early conditions to avoid complications such as

varicose ulcers and thrombotic limbs. Along with that pain, it induces a loss of productivity at work. Among the various treatment modalities of modern surgery, none of the methods are labelled as ideal because they fail to give permanent relief, and the recurrence rate is higher along with their side effects. Due to the high cost of this treatment (medical or surgical), patients can now be referred to for more precise assessment and a more excellent range of therapeutic options than ever before.

In Ayurvedic literature, the types of changes that manifest can be categorised as⁴-

- i. Endothelial damage – *Sampeedana, sankochana, vishoshana* and *vakreekarana* of *sira* due to *kapha* (reduction in *sthira guna*) and *vata kopa* (*ruksha guna*).
- ii. Stasis – *Nishphura* as per Acharya Vagbhata due to vitiation of *kapha dosha* and *rakta dhatu*.
- iii. Coagulation of blood -thrombophilia – *Granthi roopa*⁵

The *vata* and *rakta dushti* have to be considered here for the treatment plan. Accordingly, *snigdha, vatashamaka, raktaprasadaka* and *raktashudhikara-*

na methods must be adopted. As per the classics, even though the first line of treatment for *sira granthi* is *sodhana* and *raktamokshana*, *Garbhini* being considered as an *abala* is strictly contraindicated for these treatments. This implies the role of *shamana aushadhis* and *bahya chikitsa* in the management.

Sthanika upanaha with Punarnavadi lepa

पुनर्नवार्काभयशिग्रु मुष्टिकारन्जसिन्धूत्थ महौषध च गोमूत्रपिष्टं च सुखोष्ण लेपान् ग्रन्थि अर्बुद हन्ती अपचीं च सद्यः। (Rasa Ratna Samucchaya)

Punarnavadi lepa explained in *Rasa Ratna Samucchaya* in *Granthi adhyaya* was advised. The ingredients include *Punarnava, Gomutra Arka, Abhaya, Shigru, Karanja, Shunti, and Saindhava*. The *churna* of *Punarnava, haritaki, shigru, Karanja, shunti, and saindhava* were mixed in *gomutra arka*, and a paste was made. This paste was applied over the areas affected with a thickness of approximately 1 to 1.5 cm (*Ardramahishacharma*), and the *bandana* was done with *arka patra* daily at night (approximately 12 hours). The *bandana* was removed the next morning.

SL no:	Ingredients	Properties
1	<i>Punarnava</i>	<i>Vrana ropana, Vedanasthapaka, shothahara</i> and <i>varnya</i> .
2	<i>Abhaya</i>	<i>Kushtahara, shodhahara, krimighna</i>
3	<i>Shigru</i>	<i>Sophahara, vedanasthapaka</i>
4	<i>Karanja</i>	<i>Krimihara, kushtajit, tvachya</i>
5	<i>Shunti</i>	<i>Shoolajit, kaphahara, shophahara</i>
6	<i>Saindhava</i>	<i>Vatashamana, ushna virya, Sophahara, vrana nashana, tridoshagna</i>
7	<i>Gomutra Arka</i>	<i>Avabhasini</i> layer contains <i>bhrajaka pitta - varnya</i> properties

PROBABLE MODE OF ACTION

Upanaha (poultice) *sweda* (sudation) induces hyperthermia and improves the local blood and lymphatic circulation and tissue metabolism. This lowers the prostaglandin levels and reduces inflammation by modifying the secretion of various inflammatory mediators, relaxes local musculature through physical effect of heat, and thereby reduces pain (*vata shamaka, vedanasthapana*) and increases the transdermal drug delivery. The drugs applied to the skin will be released, partitioned, and diffused through the

stratum corneum, mainly through the intercellular lipids. The drugs then reach the viable epidermal layers and diffuse into the dermis. Then, the drug gets absorbed into the blood vessels, which achieves systemic circulation.

Sariva ksheerapaka

Ksheerapaka helps to fulfil the increased nutritional requirements during pregnancy. The drug effect is prolonged because of the colloidal form of fat, which takes longer to digest. *Ksheera* is *Garbhaposhana, Jeevaniya, rasayana, vrshya, balya, stanyakara* and *shramahara*. And *sariva*, with its specific property of

boosting blood flow and purification, helps in the alleviation of *rasa dushti* and helps in *sroto sodhana*. It potentiates the *rakta dhatu* and vata pittahara, which allows in *granthiharatwa*.

Vaivarnya (blackish discolouration) occurs due to the stasis of blood in the veins. This leads to blood haemolysis, leading to the deposition of haemosiderin pigment in the skin, which manifests as blackish discolouration, noted in patients with varicose veins.

Rasa panchaka of sariva

Rasa	Madhura, tikta
Guna	Guru, snigdha
Veerya	Sheeta
Vipaka	Madhura
Karma	Raktavardhaka, kandughna, kushtahara, vishahara, shophahara and vedanasthapaka.

Dhanwantaram vati was given to address the vitiated vati and normalise its gati. *Drakshamalakadi lehya* was given considering its rasayana guna for the maintenance of pregnancy.

CONCLUSION

Varicose veins in pregnancy are a condition that can be managed conservatively when the symptoms are mild and detected early. Varicosity affects the quality of life to a large extent. Lifestyle modification, usage of stockings and avoiding aggravating factors are the key features of its management. As per Ayurvedic classics, Sira Granthi is advised to take various treatments. Considering pregnancy as a condition with less *balance*, *sira mokshana* is usually contraindicated. *Sthanika upanaha* and *urdhwa abhyanga* have been found to show symptomatic relief in the patients. The *upanaha dravya*, due to their virya, enter into the body through romakooopa, then undergo paka by bhrajaka pitta and produce the desired effect based on the dravya selected for use. Applying *upanaha* produces a pain-relieving effect on the affected part by causing vasodilation, stimulation/soothing of superficial nerve endings, increased

The *sariva ksheerapaka* helps in blood purification and increases blood flow. Since there are no further statistics of blood, there is no subsequent haemolysis, thereby reducing *Vaivarnya* and restoring the normal pigmentation of the skin. It also relieves itching by *pittahara* (pacifying *pitta*) and *raktaprasadakara* properties.

blood flow, and increased nutrition supply and metabolism.

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