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Lymphedema Praecox a subtle exigent case study through endogenic avenue W.S.R. to *Urustambha*

Case report

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Abstract

The lymphatic system has historically been disregarded, undervalued, and poorly understood. As it mimics chronic venous insufficiency, it leaves patients in a terrible condition. One such congenital condition where aberrant protein-rich fluid accumulates in the lower extremities is lymphedema praecox. In '*Ayurvedic samhitas,* there is a condition called *Urustambha* which can be correlated with Lymphedema praecox. Clinical characteristics and therapy are beautifully detailed in *samhitas* like *Charak* and *Sushrut* thousands of years ago, and modern science is leveraging them even today. Since this condition is uncommon, we decided to address and take up this case. A 25years old female was admitted in our opd with complaints of B/L lower limbs, huge swelling followed by long standing and feeling of heaviness. We diagnosed and treated the patient according to classical texts of *Charak* and *Sushrut* with *baluka swedan*, *prachana karma, udwartan* and few oral medications and got promising results. With ayurvedic intervention, their quality of life has been improved and no further medication was required.

Key Words: Lymphedema praecox, *Aama*, *Meda dhatu, Prachana, Udvartan.*

Introduction

Lymphedema is an abnormal swelling of the extremities brought on by the build-up of interstitial fluid that is rich in protein and results from impaired lymphatic drainage in the context of normal capillary action. Although swelling appears in early puberty, lymphedema is a disorder that impairs the normal physiology of the lymphatic system and is believed to be present since birth. Ankle swelling occurs recurrently and grows gradually. It frequently affects the lower limbs, likely as a result of gravity and the underdeveloped lymphatic system in the legs. It can be categorised according to the age of onset, lymphangiographic abnormalities, or genetic risk, however none of these factors are perfect. Congenital (2 years), Praecox (2–35 years), and Tarda (>35 years) are the subcategories. Although the exact prevalence of lymphedema praecox is unknown, 1 in 6000 persons will have the condition. With a female to male ratio of 3:1, the incidence peaks right around menarche(1). Both Charak and Sushrut provide an explanation for *Urusthambha*, which is characterised by the obstruction of *vata's* movement by *aama* (a by-product of abnormal digestion) and *meda dhatu* (fats). As a result, it builds up in the lower limbs, resulting in clinical symptoms including discomfort with a moderate burning sensation, exhaustion in the lower extremities, a feeling of coldness, discomfort while placing the feet on the ground, and loss of control while standing or walking. Complete extraction and absorption of the illness is the therapy plan. Always administer therapeutic methods that reduce *kapha* and prime focus on not exacerbating *vata* while safeguarding the patient's strength (2,3).

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Diagnostic criteria

It develops throughout adolescence and is more prevalent in females, according to BROWSE lymphangiographic categorization of lymphedema praecox, which is distal obliterans (80%). It progresses slowly, frequently bilaterally, and reaches the knee or calf joint. There is positive family history. Symptom relief is greatly impacted by compression bandaging(4).

Grading/stages

According to BRUNNER clinical classification (5)

Table 1: Brunner clinical classification

Grading	Clinical features
Latent	Excessive interstitial fluid, aberrant lymphatic and lymph node histology.
Grade 1	Oedema with pitting that goes away with elevation or bed rest.
Grade 2	Positive stemmer's sign, non-pitting oedema that doesn't get smaller on elevation.
Grade 3	Oedema is linked to permanent skin alterations, such as fibrosis and papillae.

Case report

A 25years old female resident of Pune, IT professional by occupation presented to surgical out-patient department with chief complaints of B/L lower limbs swelling, gradually increasing proximally upto knee level from last 12 years, which had attained a permanent size.

Associated symptoms (Study focus symptoms)

- Increase in pain while walking.
- Sensation of heaviness in legs and fatigue.
- Restricted ROM of ankle from last 3 years.

History of present illness

Patient was apparently well when she was 12 years of age. Then she gradually developed oedema in lower extremities (R>L). She had undergone ligation and stripping of right leg. After that she gradually developed oedema of both lower limbs associated with increase in pain while walking, sensation of heaviness in legs and fatigue, Restricted ROM of ankle from last 3 years.

Past history

No history of diabetes mellitus (DM), hypertension (HTN), trauma, drug allergy, skin infections like cellulitis or any other illness.

Surgical history

Ligation and stripping right leg when she was 12 years old.

Personal history

Living in proper hygienic condition, non-vegetarian by diet & normal bowel habits. No history of high risk behaviour, smoking or alcohol consumption.

Family history

Mother is having lymphedema praecox.

Clinical presentation

General examination

No pallor/ cyanosis/ icterus/ pedal oedema/ clubbing.

Table 2: Vitals on first day

	Reading	Unit
BP (left arm)	120/70	mmhg
PR	74	/min
RR	14	/min
TEMP	97	0F
WEIGHT	74	Kgs

Table 3: Systemic examination

CNS	Conscious and oriented to TPP
CVS	S1 & S2 NORMAL
RS	AEBE

Local examination:

Inspection:

- Edema upto knee joint B/L
- Buffalo hump swelling on dorsum of foot
- Loss of ankle contour
- Restricted ROM ankle
- Stemmer's sign positive

Palpation

- Non pitting Oedema
- Consistency hard
- B/L malleoli non palpable
  - Dorsalis pedis non palpable
  - Popliteal & femoral artery palpable
  - Inguinal lymph nodes non palpable

Table 4: Investigations

	Reading	Unit
Hemoglobin	12.8	gms
Red blood cells	4.68	cu/mm
White blood cells	8300	cu/mm
Platelets	3.87	cu/mm
BLOOD UREA	24	mg/dl
Serum creatinine	0.8	mg/dl
Thyroid stimulating hormone	1.33	mIU/L
Blood smear for microfilaria	Negative	

Diagnosis

Lymphedema Praecox as it is a clinically diagnosed disease. It starts in puberty, patient has surgical history of ligation and stripping for varicose veins as a misdiagnosed case. Patient also has positive family history.

Following are some of the key characteristics indicated in classical(6,7) and modern texts(8):

It affects the bilateral lower limbs, spread from distal to proximal, presence of fibro fatty tissue resulting into sensation of heaviness in legs, changes in texture of skin, fatigue, pain while walking. Both classical and modern texts suggest to avoid vigorous exercise. Swimming against the flow of water and light massage can benefit the patient.

Differential diagnosis

Other possible conditions have been ruled out like peripheral vascular disease with clinical examination and accessing the arteries, filariasis with blood smear for microfilaria, hypothyroid with TSH levels, kidney disease with Serum creatinine and blood urea levels.

Treatment module

All the ayurvedic medicines, used for treating case, were procured from the Sudhatatva Pharmacy, Dr. D. Y. Patil Hospital, Pimpri, Pune.

Table 5: External/ local medications given

S. No.	Procedure	Duration
1	*Baluka swedan*	OD for 5 days
2	*Prachana karma*	Once/week (B/L)
3	*Udwartan* with *Karanj* (Indian beech) + *Sarshap* (Mustard) *chooran*	OD for 60 days
4	Swimming, compression bandaging, avoid vigorous exercises & walking.	60days

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Table 6: Systemic medications given

S. No.	Drugs	Dosage	*Anupana*	Duration (days)
1	*Shudha Guggul*	500mg	*Gomutra* 20ml	60
2	*Triphala*	1gm	Lukewarm water	60
3	*Kutki*	250mg	honey	60

Observation and Results

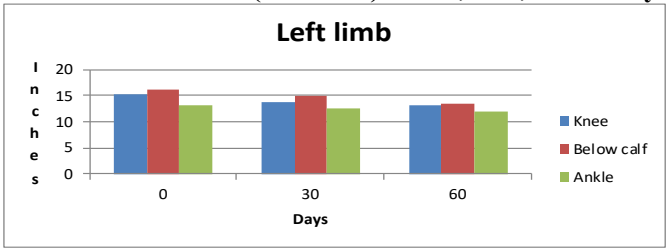
Table 7: Observations of left lower limb

Left lower limb			
Area	0th day	30th day	60th day
Knee	15.1”	13.8”	13”
Below calf	16.2”	14.8”	13.5”
Ankle	13.1”	12.7”	12.1”
Plantar flexion	16°	34°	45°
Dorsiflexion	9°	21°	28°
Pain (Visual Analogue Scale)	7	6	4

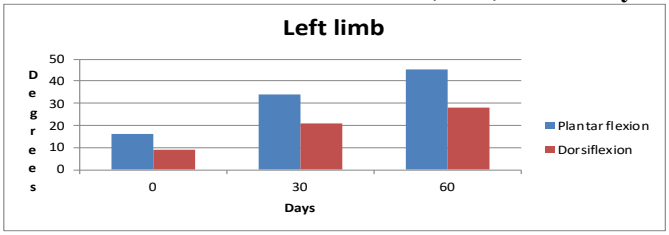
Table 8: Observations of right lower limb

Right lower limb			
Area	0th day	30th day	60th day
Knee	15.8”	15”	14.4”
Below calf	16.4”	15.3”	14.9”
Ankle	13.2”	12.5”	12”
Plantar	19°	34°	49°
Dorsiflexion	11°	26°	25°
Pain (VAS)	8	6	5

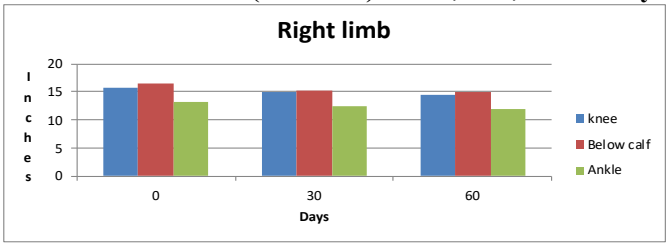
Graph 1: The graphical representation of left lower limb measurement (in inches) on 0th, 30th, & 60thday



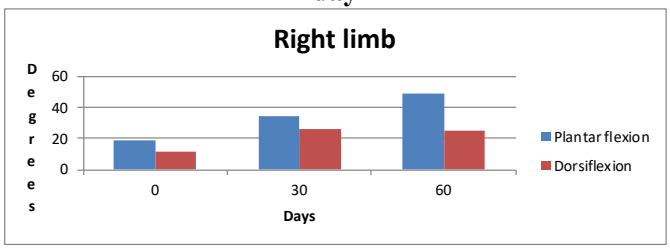
Graph 2: The graphical representation of plantar and dorsiflexion of left lower limb 0th, 30th, & 60th day



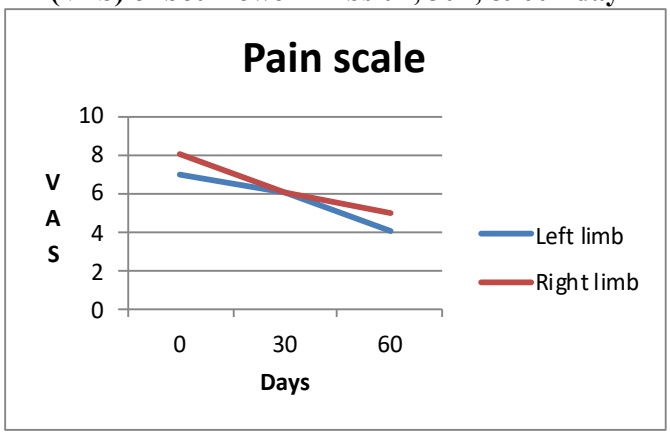
Graph 3: The graphical representation of right lower limb measurement (in inches) on 0th, 30th, & 60th day



Graph 4: The graphical representation of plantar and dorsiflexion of right lower limb 0th, 30th, & 60th day



Graph 5: The graphical representation of pain scale (VAS) of both lower limbs 0th, 30th, & 60th day



Discussion

Baluka swedan (9) (sand fomentation), a form of ruksha swedan (Dry fomentation) releases aama (undigested food) and meda dhatu (fats) by transmitting heat energy in accordance with the gunas. When heat is applied through the skin, the capillary vessels enlarge and lymph flows into the subcutaneous region. Prachana karma(10), a para surgical process, then aids in lymph drainage and cleansing. In order to relieve the swelling that prevents the lymphatic channels from deteriorating further, small linear incisions that are neither too deep nor too shallow preferably with surgical blade No. 15 are made in the subcutaneous tissue through which lymph drains under aseptic precautions. Tight bandaging should be done to check bleeding after the procedure. On a dosha level, prachana assists in channelizing vata and pacifying the kapha dosha, which cannot be pacified by conventional methods. During the procedure, precautions must be taken not to injure major blood vessels. Udarvartan means to move something from below upwards (pratiloma gati, opposite to hair direction). It possesses kaphamedahara qualities. When combined with powdered medications in pratiloma gati, it liquefies fat, eliminates dirt and poisons, and reduces body heaviness and drowsiness increasing lymphatic drainage as a result(11,12).

The amount of lymph is directly correlated with arterial blood flow. Exercise that is vigorous tends to enhance blood flow to the lower extremities. Swimming which provides slow, rhythmic isotonic motion promotes lymph and venous drainage is advised in order to prevent lymphedema(21).

Table 9: Drugs and its mode of action

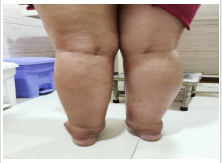
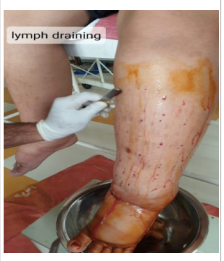
Drugs	Mode of action
Sarshapa (Brassica juncea)(13)	*Tikta*(bitter), *katu*(pungent), *tikshana*(piercing), *ushna*(hot in potency), *kaphavataghan*, *agnivardhan*(improves digestion)
Karanj (Pongamia pinnata)(14)	*Katu*(pungent), *ushna*(hot in potency), *laghu*(light to digest), *bhedan*(piercing), *sophahara(reduce oedema)*, *Kaphavatahar*
Sh. Guggul (Commiphora mukul) (15)	*katu*(pungent), *ushna*(hot in potency), *vishada*(clear channels), *sookshma*(enters into minute spaces), *sara*(brings movement), *medohara(fat depletion)*, *sophahara(reduce oedema)*
Gomutra (cow's urine) (16)	*Katu*(pungent), *tikta*(bitter), *kshaya*(astringent), *ushna*(hot in potency), *kshar*(alkaline), *laghu*(light to digest), *tikshana*(penetrating), *kaphavatahar*(depletes kapha & vata)
Triphala (17,18)	*Kaphamedohar*(depletes fats), *rasayan*(rejuvenating)
Kutki (Picrorhiza kurroa)(19)	*Tikta*(bitter), *katu*(pungent), *ruksha*(dry), *bhedani*(piercing), *deepeni*(improves digestion), *kaphahara*(pacifies kapha)
Old honey(20)	*Ruksha*(drying), *suksham*(penetrating), *sroto vishodhan*(clean the channels), *medoghan*, *vilekhan*(depletory of body fats)

Table 10: *Samprapti ghatak (pathogenesis) of urustambha*

***Samprapti* ghatak(pathology) of *Urustambha*(22)**	
Dosha	*Kapha Pradhan tridosha, aamdosha*(undigested food)
Dushya	*Rasa, medha*
Adhishthan	*Uru Pradesh*(leg)
Srotas	*Rasavaha, medovaha*(channels)
Sroto dushti Lakshan	*Sang* (obliteration)
Utpati sthiti	*Amashyapakvashyaoth*(gut)
Agni sthiti	*Agnimandya*(low digestive fire)
Sadhyasadhyta (prognosis)	*Naveen*(new), *updravyarahit* without complication)– *sadhya*(curable) *Updravyasahit*(with complication) – *asadhya*(incurable)

Conclusion

Lymphedema patients can be treated conservatively without undergoing difficult surgical treatments like liposuction, bypass surgeries, and limb reduction procedures. Fewer allopathic medications exist having not so effective results. With internal drugs regimen, dietary adjustments and Para surgical procedure known as *prachana karma*, we yield notable outcomes. The prime focus was on calming the exacerbated *doshas* that could be controlled by other techniques. It is difficult to drain lymph using other therapies, but it can be directly drained from the subcutaneous tissues. Although it won't be simple because the disease is rare and the treatment we chose is time-consuming, holistic approach and the promising treatment results help to provide quality life to the patients. More trials can be done in huge numbers as the outcomes are noteworthy.

Figure 1: Measuring right limb	Figure 2: bilateral lower limb	Figure 3: Prachana karma
		

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