



## A COMPREHENSIVE REVIEW ON *SIRAGATA VATA* W.S.R TO RAYNAUD'S DISEASE

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### ABSTRACT

*Siragata Vata* is an *Ekanga* (localized) *Vatavyadhi* described by *Maharshis*. It is better correlated with Raynaud's disease in modern medical science. Vasospasm or obstruction of blood vessels results cessation of blood flow to the fingers, hand, lips, nose and toes make worse the condition. *Shita Ahara Vihar*, *Chinta*, *Shoka*, *Srota Avarodha* are causative factors. Pallor or blanching, dusky cyanosis and painful red engorgement are common symptoms. Modern medicines like nifedipine, prazosin, glycerine trinitrate are advised for treatment of Raynaud's disease but these medicines may affect other organs functions and produce side effects. Ayurvedic therapies

described for *Siragata Vata* can be beneficial for the treatment of Raynaud's disease without any alteration of other organs functions. Leech therapy has vasodilator effect which can improve the vasospasm. In this review paper detail comparison between *Siragata Vata* and Raynaud's disease has been described.

**KEYWORDS:** *Siragata Vata*, Raynaud's disease, Vasodilators, Leech therapy.

## INTRODUCTION

In the year 1862 Maurice Raynaud described about a disease characterized by episodic attacks of vasospasm of fingers and hands now called as Raynaud's disease. Women are more commonly affected by this disease with a ratio about 5:1. In 90% of cases the age of patients are below 40 years. Older males may develop this due to arteriosclerosis. Emotional disturbance and cold exposure increase the incidence of this disease. Fingers and hands are mainly involved but sometimes toes, feet, ears, nose and lips are also affected.<sup>[1]</sup> Peoples working as meat packers, in polyvinyl chloride industry, with pneumatic road drills, chain saws, wood cutting fisherman travelling in machine boats are commonly suffering in this disease.<sup>[2]</sup> Raynaud's disease can be correlated with *Siragata Vata* in *Ayurveda*. *Siragata Vata* is described under *Vatavyadhi* in *Brihatrayee*. Excessive exposure to cold and working with vibrating tools increase *Shita Guna* and *Chala Guna* of *Vata Dosha* respectively leads to vitiation of *Vata Dosha* inside the *Sira* situated at concerned part. The vitiated *Vata Dosha* produce *Siragata Vata* manifested as *Sira Sankocha* (vasoconstriction), *Sira Riktata* (emptiness of vessels), *Sira Adhmana* (vasodilatation), *Sira Poorana* (fullness of vessels) and *Manda Ruk* (mild pain). These symptoms are nearly similar with Raynaud's disease. Prazocin, pentoxifylline, nifedipine are drug of choice for Raynaud's disease, but these drugs affect other systems of body. *Abhyanga*, *Upanaha*, *Alepana* are the indicated treatment for *Siragata Vata* which are also helpful for the treatment Raynaud's disease and never be harmful to other body parts.<sup>[3]</sup>

## ETIOLOGY<sup>[4]</sup>

### ***Shita Ahara and Vihar***

Excessive intake of cold diet and exposure to cold environment vitiate *Vata Dosha*. Cold exposure constricts blood vessels.

### ***Ati Vyayama (Strenuous exercise)***

*Ati Vyayama* is a cause of *Vata Prakopa*. Strenuous exercise is an aggravating factor of Raynaud's disease.

### ***Chinta (Excessive thinking), Shoka (Sadness), Krodha (Anger)***

*Chinta*, *Shoka* and *Krodha* are the factors of *Vata Prakopa*. In about 25% of patient's intense emotion may be initiating factor of Raynaud's disease.

***Rogatikarsana (Debilitating by diseases)***

*Rogatikarsana* brings *Dhatu Kshaya* which results *Vata Dosha* vitiation. Immunologic and connective tissue disorders like scleroderma, systemic lupus erythematosus, rheumatoid arthritis, dermatomyositis and Sjogren's syndrome may cause Raynaud's disease.

***Gajadibhya Patana (Falling from swift moving elephant)***

Continuous travelling with or falling from elephant, horse and camel etc. may aggravate *Vata Dosha*. Using of vibrating tools like chain saws may increase the chance of Raynaud's disease.

***Dosha Asruk Sravana***

*Dosha Asruk Sravana* also cause of vitiation of *Vata Dosha*. Direct arterial trauma may cause Raynaud's disease.

***Margasya Avarana (Obstruction of channels)***<sup>[5]</sup>

Obstruction of channels aggravate *Vata Dosha*. Obstructive arterial diseases like arteriosclerosis, burger's disease, thoracic outlet syndrome increase the incidence of Raynaud's disease.

Some drugs like ergot alkaloids, beta blockers, cytotoxic drugs and birth control pills are responsible for this disease. Other miscellaneous causes like cold agglutinins, cryoglobulinemia, neoplasia, neurogenic disorders and endocrine disorders.<sup>[6]</sup>

**PATHOPHYSIOLOGY**

*Acharya Charak* in *Vatavyadhi Chikita* described that vitiated *Vata Dosha* enters into *Rikta* (Empty) *Srotas* (Channels) and produce different type of diseases which may be *Ekanga* (Localized) or *Sarvanga* (Generalized). *Siragata Vata* comes under *Ekanga* types.<sup>[7]</sup> For ease to understand, *Samprati* (Pathophysiology) of *Siragata Vata* divided into following stages.

***Sira Kunchana (Vasoconstriction) and Sira Riktata (Emptiness of blood vessels)***

In *Ayurveda Purusha* are told as *Srotamaya*. The arterioles penetrate the dermis at a right angle with an irregular reticulate pattern and end in capillary network. With exposure to cold the digital arterioles go into spasm and the decreased blood flow is evident by pallor or by blanching. This change starts at tip of finger and gradually spread towards the base. This stage is called as local syncope/blanching.

***Sira Adhmana* (Vasodilatation) and *Sira Poorana* (Fullness of Blood vessels)**

With gradual warming there is slight relaxation of arterioles. Small amount of blood passes to the capillaries which become dilated due to accumulation of anaerobic metabolites from the previous stage. Slowly flowing blood becomes easily deoxygenated and the part becomes dusky or cyanosed. The fingers remain cold and numb. This is the stage of local asphyxia.

***Shopha* (Edema) and *Shoola* (Pain)**

When the attack passes off with more warming the spasm disappear and arterioles relaxed. The oxygenated blood returns into the dilated capillaries and the fingers become red and swollen. Burning sensation and pain may occurs due to increased tissue tension within digits. This is the recovery stage.<sup>[8]</sup>

**CLINICAL FEATURES OF SIRAGATA VATA**

*Mandaruk* (Mild pain), *Shosyati* (Dryness of skin), *Shopha* (Edema), *Spandate* (Normal Pulsation of limbs), *Suptata* (Numbness), *Tanyu Mahatyu Sira* (Thinning and engorgement of blood vessels)<sup>[9]</sup>, *Sira Kunchana* (Vasoconstriction), *Sira Poorana* (Fullness of blood vessels)<sup>[10]</sup>, *Sira Adhmana* (Vasodilation) and *Sira Riktata* (Emptiness of blood vessels) are the features of *Siragata Vata*.<sup>[11]</sup>

**CLINICAL FEATURES OF RAYNAUD'S DISEASE**

Pallor or blanching, dusky cyanosis and painful red engorgement are common clinical features. Peripheral pulses are normally felt and fingers and hands feel cold. Tingling sensation and numbness also present. Sometimes prolong vasospasm may causes ischemic ulcer and gangrene.<sup>[12]</sup>

Therefore, it is proved that the clinical features of *Siragata Vata* coincide with Raynaud's disease.

**INVESTIGATIONS**

DSR/MR angiogram, arterial Doppler/Duplex scan, antinuclear antibody assay, assessment of segmental blood pressure gradient from brachial-forearm-wrist-fingers, nail fold Capilloscopy, protein electrophoresis, hemogram, ESR and Rheumatoid factor.<sup>[13]</sup>

## TREATMENT

### ***Nidan Parivarjan* (Preventive therapy)**

Moving to warm climate, avoiding tobacco should be advised. Occupational exposure should be reduced and part protected from exposure to cold.<sup>[14]</sup>

### ***Abhyanga* (Massage therapy)<sup>[15]</sup>**

*Abhyanga* may improve lymphatic drainage as well as venous drainage of the area. It improves blood circulation and tissue perfusion and also eliminate obstructions in micro vessels and improve tissue perfusion. It has *Pushtikara* properties for which improve blood circulations and tissues viability to the affected part in Raynaud's disease. *Abhyanga* therapy relaxes muscles and blood vessels so that it improves stiffness of muscles and vasoconstriction.

### ***Alepana* (An ointment)<sup>[16]</sup>**

*Alepana* reduces localized pain and inflammation. It also eliminates burning sensation over the skin and wound healing properties. It helps to reduce localized pain in Raynaud's disease.

### ***Snehana* (Oleation)<sup>[17]</sup>**

*Vinihanti Sangam* (Clears the obstruction in channels) is the function of *Snehana Karma* and also has *Vatahara* property. Hence it eliminates the obstruction in blood vessels and improve blood circulation to affected part of Raynaud's disease.

### ***Swedana* (Heat therapy)<sup>[18]</sup>**

*Swedana* has *Mardaba* (relaxation) and *Srota Nirmalatva* (purification of channels) property. Hence, it relaxes the constricted blood vessels and improves blood circulation. *Shita* (coldness) and *Shoola* (pain) reduce by *Swedana Karma*.

### ***Upanaha* (Poultice)<sup>[19]</sup>**

The meaning of *Upanaha* is bandage with warm paste of medicaments. It is a type of *Swedana Karma* which is mainly applied in *Vata* disorders. It has two sub-types: *Sagni Upanaha* (application of drugs after heating) and *Niragni Upanaha* (application of drugs with hot potency without heating). It reduces local inflammation and acts as topical analgesic.

Modern medical science advised vasodilator drugs like nifedipine, prazosin, pentoxifylline, phenoxybenzamine, methyldopa for treatment. Prostaglandin E may be beneficial for this

treatment. ACE inhibitors, nitrates and endothelin inhibitors are may be effective. 1% glycerin trinitrate may be applied topically.<sup>[20]</sup>

### Para-surgical procedure

#### **Raktamokshana (Bloodletting)**<sup>[21,22]</sup>

*Raktamokshana* or bloodletting therapy reduces inflammation and pain. Leech therapy should be applied in Raynaud's disease. The saliva of leech contains anticoagulants (hirudin), platelet aggregation inhibitors (apyrase, collagenase and calins), vasodilators and proteinase inhibitors. Histamine like vasodilators present in saliva of leech may improve the Raynaud's disease.

#### **Modern surgical Treatment**<sup>[23,24,25]</sup>

Cervico-dorsal sympathectomy is useful for spastic variety but not or little benefit to patients associated with connective tissues diseases. Complications like perforation of pleura leading to pneumothorax, injury of thoracic duct and Horner's syndrome may occur. In majority of cases the symptoms may return within 5 years of sympathectomy. Localized digital sympathectomy is said to be effective.

### CONCLUSION

*Siragata Vata* is a localized vascular disease described under *Vatavyadhi* in *Ayurveda* nearly similar to Raynaud's disease in modern medical science by comparing its etiology, pathophysiology, clinical features and treatment principles. Modern sciences used vasodilator drugs for the treatment of Raynaud's disease which may harmful to other body system. Ayurvedic treatment therapy like *Snehana*, *Swedana*, *Upanaha*, leech therapy etc. can be effective for Raynaud's disease without any harmful effect to other body organs.

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