

A REVIEW ON *SIRAVARNAN* IN SHARIR RACHANA

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## ABSTRACT

Our ancient acharyas have recommended the thorough structural scientific knowledge of the life. The knowledge of Rachana Sharir is necessary for the students of any system of medicine. Acharya Sushruta is Called as the father of surgery, as in Sushrut Samhita description is available regarding methodology for learning of anatomy, dissection on cadaver, *dhamani*, *sira*, *marma* etc. He has given more emphasis on the practical knowledge. Sushrut Samhita is the bestone for study of rachana sharir. In Sushrut Samhita we get distinguish description among *sira*, *dhamani*, *srotas* we get detail description of *sira* in Sushrut Samhita Sharirasthan adhyay seven. But regarding *sira* there is scattered dicription. In one place *sira* means blood vessels while in one place *sira* means nerve. So it becomes very difficult to know clear meaning like modern anatomy. So my aim for this literature review article is to study and correlate the tem *sira*. According to sharir rachana vigyan the circulation of *rasa-rakta* in the body depends upon *sira*, *dhamani* and *lasika*. While *vata* carry *vayu* i.e. nerve. We can correlate them with the help of modern anatomy and should understand the text and its importance. So we can study the structure and function of *siras* by correlating our ayurvedic text and modern text. In conclusion we can say that *sira* which flow from origin can be called as artery, *sira* flow towards origin can be called as vein, *sira* which join artery with vein can be called as capillary, *sira* carrying lymph(*rasa*) can be called as lymph vessels, *sira* (*vata*) carrying *vayu* can be called as nerve.

**KEYWORDS:** *Sira*, *Dhosha*, *Dhamani*, *Lasika*, *Nerve*.

## INTRODUCTION

The word *sira* is mostly refers to the blood vessels which flows the blood towards heart. The term *sira* stands for channels through which substances or physical flow. in general this term stands for blood vessels, even though Sushruta has also used it in the sense of nerves i.e. *vata* *vahana* *sira*.

**Sira utpatti** –As is told by Acharya in Charak Sutrasthan 30 *sira* means the channel or vessels in which liquid flows (सरणात् सिराः). Acharya Charak described it from root meaning of *sira*. The word *sira* is derived from the root 'sru'-to go or move slowly. Here सरणात् means the slow flow of liquid (it may blood, lymph) from one part to other part of the body. *Sira* has been defined those structures in which there is a passive flow of the blood or *sira* are tubular structures it carries vital fluid. Chakrapani the commentator of Charak Samhita has explained Charak's view very clearly. He said that –saran means passing from one organ to another organ. According to *Sushruta sira* and *dhamani* are the channels other than *srotas*.

As per Acharya Sushruta *siras* are originated from *nabhi* (umbilicus) and spread out in the body upwards, downwards & obliquely. As the centre of wheel is associated with radial spokes and holds them and controls the wheel movement, same like that *prana* in situated in *nabhi* i.e. origin of the *siras* and these *siras* are situated around. We can understand this by studying the foetal blood circulation. In foetus the blood circulate from mother to placenta, placenta to umbilical cord which passes through umbilicus (*nabhi*) and then enters the foetus. Here the centre of circulation of blood is umbilicus. After birth the blood pumps from heart so it becomes the centre of circulation. Acharya Vagbhatta had mentioned it in Ashtang sangraha (अ. सं. शा 6/3) and Ashtang hridaya (अ. ह. शा3/118)

To describe *swarupa* of *siras* Acharya Sushruta said that *jalharini* (small water pipeline) irrigate the *upawan* (garden) or *kyari* (water dripping system) irrigate *keadar* (field) and nourish them. Like that the *siras* (by contraction and relaxation) nourishes the body (*Upshehan*). Structurally *siras* look like as fibers in the

leaf, branched and thick i.e. the larger arteries leave heart and divided into smaller ones and reached to various organs of the body.

Acharya Sushruta told that total seven hundred *siras* had origin from 40 moolsiras out of which

<i>Vatavaha sira</i>	=10
<i>Pittavaha sira</i>	=10
<i>Kaphavaha sira</i>	=10
<i>Raktavaha</i>	=10

These *siras* are again divided in 175 each

<i>Vata sthangat</i>	=175
<i>Pitta sthangat</i>	=175
<i>Kapha sthangat</i>	=175
<i>Rakta sthangat</i>	=175
Total	= 700

*Siras* are again classified according to body part

In each <i>shakha</i> (limb)	=25
So in four <i>shakha</i> (limbs) (25*40)	=100
<i>Kostha</i> (Thorax and abdomen)	=34

<i>Guda</i> (Anus) - 4
<i>Parshva</i> (Back) -6
<i>Udar</i> (Abdomen) -6
<i>Vaksha</i> (Thorax) -10

<i>Urdhvajatrugat</i> (Head, neck & face)	=41
<i>Griva</i> (neck)-14	
<i>Karna</i> (ear)-4	
<i>Jivha</i> (tongue)-9	
<i>Nasa</i> (nose)-6	
<i>Netra</i> (eye)-8	

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175

So total *vatavaha siras* are 100+34+41=175

Like this *pittavaha*, *kaphavaha* and *raktavaha siras* could be counted.

### Colour, Characters, Functions of *siras* (*Akupit*, *Kupit Dosh*)

*Vatavaha siras* are *aruna* and filled with *vayu* and they reach & feed *vatavahasthana*. When *akupit vayu* flows in *siras* then all the functions are normal, without pain, struggle.

*Bala*, *varna* & *oja* are increased when *vayu* is *akupit*. But when *kupit vayu* flows in *siras* then the *vatajanya vikar* are produced. These *siras* perform physical functions without hindering the specific of *Buddhi* and sense organs. Acharya Dalhan has explained the term *kriyanam*. In this he includes both voluntary action and involuntary action. The word *buddhi*, *karma* is related to the five sense organs and *manas*. The intellect or a person takes the decision in the normal state. When there is a problem in

normal functioning of sense organs, it is supposed that there is something wrong with the *buddhi* or it has gone under *moha*.

In *Ashtang Hrudaya*, Acharya Vagbhatta has mentioned only characters of *siras* but not mentioned any function of these *siras*. It means *vatavaha siras* perform the functions of *vata*, *pittavaha sira* perform functions of *pitta*, *kaphavaha siras* perform functions of *kapha*.

*Pittavasiras* are *neela* and *ushna*. They reach and feed *pittapradhan sthana*.

When *akupit pitta* flows through *siras* then we get

- 1) Increase skin glow (*Kanti*)
- 2) Raised appetite (*Anna ruchi*)
- 3) Good digestion (*Agni dipana*)
- 4) Healthy body (*Nirog sharir*)

But when *kupit pitta* flows through *sira* then *pittajanya vikar* are produce e.g. *amlapitta* (acidity) *kandu* (Itching) etc.

*Kaphavaha siras* are *gaurvarna*, *sheetal*, *sthir* and reach & nurture the *kaphapradhan sthana*. When *akupit kapha* flows through *siras* then we get

- 1) Softness of skin (*snehan*)
- 2) Stable joint (*Drudha sandhi*)
- 3) Strong and energetic body. (*Balavarnayukta*.)

But if *kupit kapha* is there *kaphapradhan vyadhi* hit the body.

*Raktavaha siras* are *raktvarni* & reach nourish *raktavaha sthana*. When *prakrut rakta dosh* (normal) flows in *siras* the function of *siras* are.

- 1) *Dhatuposhan*
- 2) *Sharir vruddhi*
- 3) *Uttam varna*
- 4) *Uttam sparsh*

But as their function disturbs due to *kupit rakta*, *raktajanya vikars* are produced e.g. *raktapitta*, blood pressure, boils etc.

Though these *siras* are divided according to *dosha* they all carry each & every *dosha* along with *poshak ras* and hence are *sarvavaha sira* (सु. शा. 7/17). It means the particular *sira* is to circulate particular *dosha* in its specific area and the other *dosha* also circulate in lesser quantity along with a predominant *dosha*.

**Avedhya Sira**-Acharya Sushruta has explained some important *siras* in the body as *avedhya sira* which is an important part of treatment (*siravedhan*). These *avedhya siras* are not punctured as it may cause disability or may be death occur there. From 700 *siras* only 98 *siras* are considered as *avedhya sira*, others can be consider for venepuncture in particular diseases. Here is the list of *avedhya siras*

<i>Bhahu / sakthies</i> (upper and lower limbs 8+8)	16
<i>Shroni</i> (inguinal region and Glutial region)	8
<i>Parshva</i> (flanks)	4
<i>Prushthavansha</i> (spinal cord)	2
<i>Udara</i> (Abdomen)	4
<i>Vaksha</i> (Thorax)	14
<i>Greeva</i> (Neck)	16
<i>Hanusandhi</i> (Temperomandibular joint)	4
<i>Jivha</i> (Tounge)	4
<i>Nasa</i> (Nose)	5
<i>Talu</i> (Palate)	2
<i>Netra</i> (Eyes)	2
<i>Karna</i> (Ears)	2
<i>Lalat</i> (Forehead)	2
<i>Shankha</i> (Temporal)	2
<i>Murdha</i> (Head)	8

These *avedhya siras* should be considered during surgery and also during venepuncture. Acharya said that if these *siras* get punctured then there would be disability or sometimes death.

**Sira Marma** — There are 107 spots in the body which are called as *marma*. *Marma* means vital spot on the body. Acharya Dalhana the commentator of Sushruta samhita said that if there is trauma or injury to these vital spots i.e. *marma* death occurs there. According to Acharya sushruta, *marma* is the vital spot in the body where confluence of *mansa* (muscles), *sira* (blood vessels), *snayu* (ligaments), *asthi* (bones) and *sandhi* (joints) present. According to structure.

Acharya classified *marmas* into five types *mansa marma*, *sira marma*, *snayu marma*, *asthi marma* and *sandhi marma*, out of this *sira marma* is one. These *sira marma* are forty one in numbers.

They are as follows

<i>Niladhamani</i>	4
<i>Matrika</i>	8
<i>Shringataka</i>	4
<i>Apanga</i>	2
<i>Sthapani</i>	1
<i>Phana</i>	2

<i>Stanamula</i>	2
<i>Apalap</i>	2
<i>Apasthambha</i>	2
<i>Hridaya</i>	1
<i>Nabhi</i>	1
<i>Parshvasandhi</i>	2
<i>Brihati</i>	2
<i>Lohitaksha</i>	4
<i>Urvi</i>	4
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	41

When there is trauma or injuries on these *marmas* the main symptoms are bleeding and unconsciousness. While elaborating this acharya said that there are four types of *siras* in the body. Generally they lie in the site of *marmas* and supply nutrition to *mansa* (muscle), *snayu* (ligaments), *asthi* (bones) and in this way they maintain the body. After injury the *vayu* present in that *marmasthana* get increased and encircles the *sira* and then it causes severe pain, bleeding. Due to this consciousness is lost gradually. Here *sira* is the structure which gives nutrition to that part and maintains that part of body. In modern text we can see same point that every structure in the body receives blood supply for nutrition and nerve supply for motor and sensory functions. Every structure is supplied by neurovascular bundle which contains artery, vein, and nerve. Here we can consider the *sira marma* concept in the word *sira*.

## DISCUSSION

There are different thinking about *siras*. Some expert says *siras* means veins i.e. vessel that carries impure blood.

Some expert says *siras* means *raktavahini* i.e. blood vessel on arteries that carry pure blood. Some say *vatavaha sira* carry *vayu* so it should refer as nerve.

In modern anatomy blood vessels are intricate networks of hollow tubes that transport blood throughout the entire body. Heart is the center of the all vessels. It pumps the pure blood all over the body by arteries. Then these arteries divided in arterioles and capillaries and spread up to the tissue and nourishes it through the single layer of epithelium. Then capillaries collect improve blood and drains into vessel. i.e. veins. We know that wall of veins are thicker than arteries, so blood does not exudates from it. It has valves so the blood does not regurgitate. Some vessels carry lymph which are known as lymphatic vessels.

According to Acharya Sushruta *siras* are classified into 4 types *vatavaha*, *pittavaha*, *kaphavaha*, *raktavaha* *siras*. While commenting on this context Acharya Ganekar said that the above description regarding classification of *siras*, on the basis of *doshas* does not mean that the forty *siras* originate from *nabhi* or *hridaya*. *Vatadi dosha* circulate in blood vessels for maintenance of the body. At *vatadi sthanas*, *vata dosha* will increase in the *siras*

i.e. in *vatadi sthanas siras* contain more *vata* and same will happen in *pitta, kapha, rakta dosha*.

Acharya Sushruta has described the *avedhya siras* and *sira marma*. *Sira vedh* is a type of *raktamokshana-chikitsa* used for the management of various diseases, mainly employed in variation of *rakta dosha* i.e. blood.

*Sira marma*, described by acharya is also very useful to the surgeon while doing surgery.

In *ayurveda* the nervous system is not described structurally but the functions of the nervous system has been described through blood vessels. Here *vayu* which circulates in the blood vessels is responsible for performing the functions of the nervous system. So it means that acharya includes nervous system with vascular system.

### CONCLUSION

Ayurveda is a system of health science which not only includes the knowledge of body & diseases but also includes the way of leaving healthy.

When we study the '*Siravarnana*' it comes to know that the word *sira* contains wide range of meaning. *Sira* is not a single type of vessel, but it can be differentiated according to its colour, position, structure & function.

Acharya told that *siras* are spread out all over the body have centre at umbilicus (*nabhi*).

So we can divided them accordingly

- 1) *Sira* flowing from *moolsthan* (origin) can be called as artery.
- 2) *Sira* flowing towards *moolsthan* can be called as vein.
- 3) *Siras* those join arteries & veins can be called as capillaries.
- 4) *Sira* carrying lymph (*rasa*) are lymph vessels
- 5) *Vatavaha sira* carry *vayu* so it can be called as nerve.

It's the need of time for ayurved scholars to study these structures & elaborate more & more as we have the great text like Sushrutasamhita.

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