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Vatvah Sira – A Critical & Conceptual Correlation with Modern Science

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ABSTRACT

The science of ayurveda is well recognized system of medicine, which have unique speciality in field of Shalya Tantra. Sushruta samhita is the earliest known authorities' treatise on Ayurveda. Sushruta Samhita is most ancient document on branch of Shalya Tantra not only in India but in the whole world. The concept of Ayurveda Shareer evolved 3000 yrs ago. Acharya Sushruta contribution to Ayurveda is most valuable. He has described different parts of body in view of medico- surgical importance.

According to Acharya Sushruta sira are seven hundred in number through which entire body is nourished constantly, kept lubricate/moistened to perform action such as flexion; contraction. Mula sira or root sira are forty; of which ten carry vata, ten carry pitta, ten carry kapha, and ten carry rakta.

Acharya Charak has defined Sira as "sarnat sira" in sutra sthan chapter thirty, sushruta has clarified the details such as distinction among sira, dhamni & shrotas. The term sira, in one place reflects a meaning of blood vessels while at other place type of sira vatavah sira, it means nerve. In such conditions it is very difficult to know doubtlessly about it like modern anatomy. Therefore it requires great research work to get a clear concept. Acharya sushruta described four types of sira on the basis of their colour & the dosha they carry. As like vatavah sira are light red in colour & filled in vata; pittavah sira are warm & blue in colour; kaphavah sira are cold, white & stable; raktavaha sira are red in colour & neither very hot nor very cold. Acharya sushruta has mentioned hundred sira in each extremity, of which only 25 vatavaha sira. There is uncertainty about identification, number, location and distribution of vatavah sira. Through the study of vatavah sira described in modern science, will get the knowledge of origin, identification sankhya & distribution, which would be helpful in removing the situation of uncertainty. Modern composition science would be helpful in detailed study of sira.

KEYWORDS

Sarnat Sira, Dhamni, Shrotas



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INTRODUCTION

Ayurveda is the first book to show the path of welfare of both the cosmic & transcendental life of man. In the text of Ayurveda the Sharira sthan remains an important place. Different Acharyas have described the composition & action of body angle in form of a formula in their code, by which the diagnosis & treatment of disease could be made. Ayurveda believes that a physician must have practical knowledge of principles of anatomy & physiology along with detailed understanding of human morphology. Only then he can become a competent physician. Acharya Charak has further added that a competent physician is always versatile scholar of a human anatomy & physiology. Ayurveda also believes that scholar of anatomy should be well versed with the theoretical & practical knowledge of our body. He can be a good physician & surgeon both only when he has practically observed & learnt all about the human anatomy doubtlessly.

All distinctions are necessary for the knowledge of veins described in Ayurveda Samhita. That's why in this research I studied sira described in Sushruta Samhita compared to tip description in modern medicine text by way of dissection methods. Acharya charak had used the name of sira due to saran kriya¹.

Our body is nourished by Rasadi & their vehicle is called Veins. Acharya Sushruta has been described 700 siras in Sharir Sthan 'according to their colour in sira varn vibhakti adhyay. The ancient views that nabhi is place of origin of sira & dhamni is based on the fact that during pregnancy the foetus is connected with the mother through a cord attached to its umbilicus & from there' these spread to all directions like spokes of a wheel². In fetal life sira (umbilical veins) supply the nutrition to the foetus through nabhi nadi (umbilical cord). After birth these sira no more exist. That is why Sushruta has labelled them "Nabhi Prabhava". Thus Sushruta's description regarding the origin of siras during intrauterine life is correct.

These are seven hundred sira, there are forty principal sira. Ten vata carriers, ten pitta carriers, ten kapha carriers & the remaining ten are rakta carriers. The vata carrying sira are situated in the special site of vata. They ramify in one hundred & seventy five branches. There are twenty five vata vaha sira in one sakthi (lower extremity). Same number is present in the opposite sakthi & both 'bahu' (upper extremity). Vata moving in its own sira (vatavah sira), bestows non hindrance of all activities (of body), non – delusion (absence of confusion) in the functions of the mind & many other activities⁴.



In this research article we have discussed about origin of vatavaha sira & ten mula siras of vata & by comparing them with modern science based on their karma & varna described in samhita.

AIMS & OBJECTIVES

To search & find out the reference in relation to sira in vrihatrayi.

- 1) To understand the concept of vatavah sira in vrihadtrayi & correlate with modern anatomy.
- 2) Identify principal veins & their branches by methods of dissection.

Research work method –

- 1) Ancient ayurvedic classics were consulted & compiled references out of them for subject to elaborate as well as to understand the process of sira in sushruta samhita.
- 2) Dissection of cadaver provides a route for the certification of siras.
- 3) For identification & certification of Vatvah sira we have dissected cadaver. We got five cadavers from government ayurvedic college Raipur, from body donation procedure. In procedure of observation through the dissection procedure.

DISCUSSION

Discussion about nirukti of sira-

Acharya charak had used the name of sira due to saran kriya. According to Abhinav Hindi Kosha, Sira have been defined those structures in which there is passive flow of anything⁵, we can mention it under the sira. In modern anatomy artery, veins, nerves, lymphatics are different basis of origin, composition but because of saran karma, they can be kept under sira.

Discussion about mula & sankhya of sira

In vedic kala that is to say Yajurveda & Atharveda any description about mula of sira is not found.

In Upanishad kala mula of sira is hridaya & the entire nadiya was located in the hridaya just by chariot. Heart is a centre of blood transfusion, all the main siras are related to heart. Once out of heart, it divides into subtle branch & spreads throughout the body⁶.

The charak samhita does not get description related to the origin & mula of siras but Acharya charak told those which ras convey to the body tissue from nabhi, called sira. Acharya charak also believes that sira originating from nabhi spread on all the directions. Those who show similarity to the description of Acharya Sushruta, also have similarity in context of number. According to Acharya Charak the number of sira is 700 as like Acharya Sushruta.

According to Acharya sushruta prana (life) resides in the veins of the umbilicus & the



umbilicus is the seat/residence of the veins. The umbilicus is surrounded by sira similar to the axle hole being surrounded by spokes⁷. The ancient views that nabhi is place of origin of sira & dhamani is based on the fact that during pregnancy the foetus is connected with mother through a cord attached to umbilicus. Thus cord consists of veins & artery arising from placenta attached to inner wall of uterus, these veins & artery branch off in the body of the foetus & supply blood & nutrition to it, at the time of birth of the child, it's cardio-vascular system with network of veins, artery & even lymphatic's will have fairly well developed after the child is born & heart becomes the chief organ of both arterial & venous network. Umbilical vessels inside the body of child slowly merge into nearby arteries & veins or even disappear.⁷ after enumerating seven hundred siras in human body, Sushruta also identify forty principal sira. Ten vata carries, ten are pitta carries, ten kapha carries & remaining ten are rakta carries. The vata carrying sira are situated in the specific site of vata. They ramify in one hundred & seventy five branches⁸.

Ten mula vatavah sira originated from heart, we can take the arteries nourishing the brain & nerve from the brain to the heart, these mula arteries starts from the heart then split into branches & goes to the

brain & nourishes them & inspires them to do their karma. If their arteries are interrupted or if they become debris, that part of brain becomes dies⁹. Ten mula vatavahi siras are -:

No.	Mula vatavah sira
1.	Ascending Aorta
2-	Arch of Aorta
3-	Brachiocephalic Artery
4-	Right Common Carotid Artery
5-	Left Common Carotid Artery
6-	Recurrent Laryngeal Nerve
7-	Left Vagus Nerve
8-	Right Vagus Nerve
9-	Left Internal Carotid Artery
10-	Right Internal Carotid Artery

In Kashyap Samhita, hridaya is mula of siras & all siras are directly or indirectly related to heart. Heart is said to be the main centre of ras-congested- rakta. That's means "Harati raktam hiyate raktam va anen" which takes the rakta & through which the rakta is received in the body. It sends blood towards periphery of body by sira jal. That's why the heart is called the mula of siras is absolutely right. According to Kashyap number of mula siras are ten, which is directly related to heart. They are divided into branches & produce forty mula siras¹⁰. Acharya Kashyap told 700 siras while following up Acharya Sushruta.

Discussion about vatavah sira –

In charak sutra sthan 20/12 Maharogadhyay also describe the characteristic features of Vat as well as deeds of Vat. Sira acts as a medium in which the Vat goes from one place to another. In the same way the nerve



is also a medium in which exchange information due to electronic & chemical changes the properties of Vat only exhibit equality with nerve of modern science. Mobility, action of sitting, feeling of hunger & thirst etc is controlled by brains nerve fibres.

Prosperities of Vatvahi Sira –

Vata moving in its own sira (vatavaha sira) bestows nonhinderance of all activities (of the body), non delusion (absence of confusion) in the function of mind & many other activities. When the aggravated vata reaches (accumulates) in its own sira (vatavaha) then many diseases produced by vata develop in the body.

Vatavahi sira co-related with neuron-

Vayu circulating in these sira perform physical functions without hindering the specific functions of Buddhi (intellect) & sense organs. Vatvahi sira intellect allows fulfilments of intelligence without any interruption. All body action such as mobility, sitting, hunger, thrust, urinary excretion & defecation all the work is controlled by brain through nerve fibre. Vatvahi sira intellect gives the ability to learning without any obstruction, the ability to remember without any interruption. This is done by Limbic System, present in human brain. The different parts of the Limbic System are done separate function such as -

1) The hippocampus is a small organ located within the brain's medial temporal lobe & forms an important part of limbic system, is associated mainly with memory, in particular long-term memory. Plays important roles in the consolidation of information from short-term memory to long-term memory, & in spatial memory that enables navigation. If this part of brain gets damage due to injury, then the old memory becomes oblivious & the new memory cannot be accumulated in the brain.

2) By keeping the new memory stored in brain by dentate gyrus.

3) Basal ganglia are associated with a variety of functions, including control of voluntary motor movements, procedural learning, habit learning. A person with basal ganglia dysfunction may have difficulty starting, stopping or sustaining movement known as Parkinsonism Disease.

4) The amygdale is a processing centre that is hooked up to receive incoming messages from our senses & our internal organs. It is highly involved with different emotional responses especially exclusive achievement¹¹.

According to Astang Samgrah Vatavahi sira alternately gets full & empty every minute & pulsating¹¹. Due to continuous & fast conduction pulsating (called



praspandan) nature is not identified. The information from a neuron with extreme precision is very high, which as soon as transfers to the second neuron through chemical & electrophoresis changes, that nerve impulses are conducted in only one direction. Due to continue flow of information one neuron to other neuron, these conducting pulsating nature are very *shigra* (fast) & *sukshma* (micro). These properties of sira described by Acharya Sushruta, show their resemblance to the nerve described in modern science. Therefore it is just fair to keep the nerve fibres under the vatavahi sira.

CONCLUSION

Acharya charak & acharya Kashyap gave the name of Sira because of the “saran” karma. Sira nourishes the whole body by carrying the ras containing rakta. Sira are seven hundred in number; by these the entire body is nourished constantly, kept lubricated/moistened to perform actions such as flexion/contraction, extension/dilation etc, Acharya Sushruta compared kedar & kulya to sira’s saran karma. Similar to large field being nourished by small channels of water; their spreading is like the ribs in a leaf; nabhi (umbilicus) is their mula (place of origin); & from there, these spread upwards,

downwards & sideward’s. According to Bhavprakash Siras binding the sandhi & nourishes the body by carrying dosha & dhatu¹³. The Sira have been demonstrated by giving the simile of veins like in a leaf of plant. If a leaf is closely observed one can see the veins of a plant leaf. Leaf consists of a main big core & from this core the other smaller or channels emerge. *Nabhi* has been identified as origin point of *siras*. In foetus it can be seen that number of veins are attached to umbilicus. After birth all the sira attached to the *Nabhi* do not function. This indicates that the description given by Sushruta is related only fetal life. The authors of Ashtang Hridaya & Astang Sangraha are of the opinion that the *sira* are attached to the *Hridaya*. Therefore the description given in Ashtang Hridaya & Astang Sangraha is concerned with post natal life anatomy of *sira*¹⁴. These *siras* bring the impure blood from whole body to the heart & the pure blood is transmitted from the heart to the whole body. Ten *mula siras* are directly originated from heart. *Sira* gradually increase in number. As they divide into further branches they decrease in diameter, which together make 700 *siras*. As a garden or a grain feild is irrigated by the water by big & small channels, similarly *sira* by their contractility & dilatory property, supply nutrition to the body. Four type of sira present in our body Vat, pitta,



kapha & rakta. The *sira* carrying *vayu* have crimson red colour & look like vata. The *pitta* carrying *sira* are blue in colour & have a warm touch. *Kapha* carrying *siras* are cold to touch. They are steady & white in colour. *Rakta* carrying *sira* are red in colour & neither they are too hot nor too cold. Vata circulating in these *sira* perform physical functions hindering the specific functions of *buddhi* (intellect) & sense organs. This includes both the voluntary & involuntary action of our body. The term “*Buddhi Karma*” is related with five sense organs & manas. Vatavani sira show similarity with modern science of nerve. The entire body’s physical & mental action is done without any interruption by brain through nerve fibres. All the nerve fibres are directly or indirectly related to the brain. The intellect plays its role for taking decision in the normal state. When there is hindrance in the normal functioning of sense organs, something goes wrong with *buddhi* or it is trapped in *moha*. When vitiated vata reaches in its own sira, serious disease manifest.

There is no sira in the body which carry only *vayu* or *pitta* or *kapha*. Therefore *sira* should be considered as “*sarva – vaha*” vessels. This means they carry all dosha. when vitiated dosha are diminished or aggravated they enter into other *sira* along with their own. Hence they are called

“*Sarva-vaha*”. The particular *sira* is to circulate particular *dosha* in its specific area. But all the three *dosha* circulate whole body. Therefore a specific *dosha* is not apt for circulation only in its specific area, but collectively they circulate in whole body. Thereby meaning that the *sira* are “*Sarva-vaha*”. The other *dosha* also circulate in lesser or greater quantity along with a predominant *dosha*. That is why they are called “*Sarva-vaha*”.



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