

**A BRIEF REVIEW ON SIRAS WITH SPECIAL REFERENCE TO AVEDHYA SIRAS****Dr. Sharma Vivek Indarchand\*<sup>1</sup>, Dr. Deshpande Mahesh Narayanrao\*<sup>2</sup> and Dr. Khedkar Ankush Dattatraya<sup>3</sup>**<sup>1</sup>Assistant Professor, In Rachana Sharir At Sanjeevan Ayurved Medical College and Hospital, Amroha.<sup>2</sup>Assistant Professor, In Rachana Sharir At Swami Vivekanand Ayurved Medical College, Shrigonda. Dist- Ahmednagar.<sup>3</sup>Assistant Professor, In Rachana Sharir At PMT's Ayurved College, Shevgaon.**\*Corresponding Author: Dr. Sharma Vivek Indarchand**

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**ABSTRACT**

The term Sira and Dhamani have been generally used in the same sense but these are not synonymous. In general, Sira mean blood vessel. But on the basis of interpretation of commentators 'Dhamani' is a channel connected to the heart which is thick, whereas Sira is a thin blood vessel. Dhama means pumping of rasa by heart into Dhamanis, Sru means channels where there is word 'Sira' means to move slowly. So with these points view, Dhamanis are arteries. Siras are veins & Srotas are lymphatics. As per Gangadhar shastri, the classification of Sira can be understood like this. Siras are 700 in number. Among these Siras, Acharyas clearly differentiated between the Vedhya and Avedhya Siras. Vedhya Siras those which can be interfered with surgical procedures & the Avedhya Siras are those on which injury must be avoided during surgery.'

**KEYWORDS:** Sira, Avedhya sira, Dhamani.**INTRODUCTION**

Ayurveda is a practical science of life with its principles universally applicable to each individual for daily existence. Ayurveda speaks of every elements and facts of human life offering guidance that have been tested and refined over many centuries to all those who speak greater harmony, peace and longevity. Ayurveda does not treat the human body as a machine which can be analyzed in the terms of its parts and various mechanisms can be understood at the biological or molecular level. Sushruta Samhita is one of the two most ancient, encyclopedic and authoritative, classical books of Indian medicine.

Acharya Sushruta has taken great pains in supplying all the necessary information required by the student of anatomy as it was studied in ancient India and there are strong grounds for believing that the surgeons and anatomists of this country were more advanced in their knowledge than their contemporaries in other neighboring countries, but the practice of surgery in ancient India rapidly declined since the advent of the Buddhist Cult. Archarya Sushruta has practically explained about Sharir Rachana in ancient time, After Samhita period, dissection knowledge was depressed in India. So the terms Sira, Srotas, Dhamani came to be misunderstood and misapplied in a number of ways.

Although the terms Sira, Dhamani & Srotas are often used as synonyms in common prevalence and are so

interpreted in some Sanskrit lexicon (Amarakosh), yet in anatomical and other portion of ayurvedic works they usually convey special meanings. Sushrutacharya explained more clearly and disprove an old theory that the siras, the Dhamanis and the Srotas's are all the same. He establishes the point that they can be distinguished from one another because of 1. Distinct characteristics 2. Different sources of origin 3. Different functions 4. And their usage in Ayurvedic literature in different aspect.

**CONCEPTUAL REVIEW**

The blood vessels which possess Sarana Karma are called as Siras. As per the Vedas, the Sira is defined as Hira channel that carries the impure blood and Dhamani carries pure blood.

The blood vessels which are possess Sarana Karma and circulating throughout the body. By means of Sarana Karma blood vessels carrying Rasadis from one place to another place. Blood vessels possessing Sarana Karma in Mrudugati are called as Siras. Usually Sira is accepted as vein; in this present day era by transmitter category of authors even though the term Sira is denoting different meanings like artery, vessel and nerve. Concerned to this verdict few references we can quote such as – As per Sushruta and Vagbhata, depending on the nature Sira can be classified as Vata vahini, Pitta vahini, Kapha vahini & Rakt vahini.

**SIRA PARIBHASHA**

As the branches of Padminikanda are spreading in Jala, likewise the Siras from Nabhi are spreading in body in all directions. Prakupita Vata getting Ashraya in Amsa Sandhi and causing Shoshana of Sandhi Bandhana resulting into Amsa-shosha that existing Vata causes Sankocha of Sthanika Siras giving rise to Avabahuka, that means Sira is considered as 'Kandara' [Ligament].

The circulating blood in Siras causes Dhatu Poorana, Kanti, etc. So may be considered as Dhamani.

**SIRA UTPATTI**

According to Teekakar of Sushruta Samhita, Sira is Upadhatu of Rakta Dhatu. Sira formed from Rakta. Vayu combined with pitta creates the srotas entering into muscle tissue, they vayu and pitta divide the muscle into peshi. From the unctuous portion of medas both sira and snayu are formed. Sira arise from mrudu pak and snayu from kharapak.

Nabhi is the place of origin for the Siras and from these they are distributed in all directions. All the Siras of the body are connected to Nabhi, and are distributed as a network throughout the body. The Pranas are located at the site of Nabhi and are associated with it. The Siras are radiating from the Nabhi like spokes from the centre of a wheel.

Mula Siras (Root veins) are ten, located in the Hridaya, they transport the Rasa and Ojas to the whole of body. On them, all the activities of the body depend. They are large at their roots and very small at their tips and appear like the lines of a leaf. Thus divided and become seven hundred in number. [Nabhi has been said to be the origin point of Siras. In fetus it can be seen also that number of veins are attached to Nabhi. After birth all the Siras attached to Nabhi don't function.] Siras are important in Sandhis as well they transport the Dosha and Dhatus. All these are attached to the Nabhi further they ramify to approach various structures of the body.

**SIRA SWAROOPA**

Vatavaha Siras are light red in colour, carrying Vata; Pittavaha Siras are warm and blue in colour; Kaphavaha Siras are white and stable. Raktavaha Siras are red in colour neither very hot nor very cold moderately warm.

There are 700 Siras. As a garden or grain field is made wet by the water carrying big and small channels, similarly the Siras by their contractility and dilatory properly, supply nutrition to the body. They spread all over the body just like small and minute laminae arising from the central core of the leaf. They originate from the Nabhi and thereby spread all over the body upwards, downwards and obliquely. The veins which are bluish-red in colour, small, full and sometime empty momentarily and having throbbing (pulsation) are carrying blood mixed with Vata, those which are warm to touch, of quick moment, bluish-yellow in colour are

carrying blood mixed with Pitta; mixture of these signs indicate mixture of Doshas. Those which are deep seated, evenly placed, smooth and of slight red colour are carrying pure blood.

**SIRA KARYA**

- **Vatavaha Sirakarya:-** Vata circulating in their Siras performs physical functions without any obstruction, promotes the intellect to work proper and prevents the mental deviations. When aggravated Vayu occupies its own Siras, it causes various disorders of Vata.
- **Pittavaha Sirakarya:-** Pitta, circulating in its own Siras, gives glow to the body, taste of food, maintains the digestive power and increases the immunity against diseases. Pitta when aggravated, moves in its own Siras, produces various disorders of Pitta.
- **Kaphavaha Sirakarya:-** Kapha, circulating in its own Siras maintains the viscosity of various parts of the body, stability to the joints, increases the strength and immunity and performs its other normal functions. When aggravated Kapha occupies its own Siras, various diseases caused by Kapha appear.
- **Raktavaha Sirakarya:-** Rakta circulating in its own Siras, nourishes all Dhatus gives colour to the body, receives tactile sensations and performs its other normal functions. When aggravated blood circulates in its own Siras, various disorders of blood occur.

**SIRA SARVAVAHATVAM**

Even though Vata, Pitta, Kapha and Rakta vaha Siras are described, it is also further classified that there are no exclusive Vatavaha or Pittavaha or Kaphavaha or Raktavaha Siras; whereas all the Siras carry all of them. In abnormal conditions like Sira Shareera aggravation of vitiation and vitiation of Dosha, they may circulate in different direction and different channel.

**SIRA SANKHYA**

- ✚ **According to Vagbhata Mula Siras:** Ten Mula sira which are connected to the heart, transport Ojas to all the major and minor parts of the body. All the activities of the body are dependent on them. They dividing themselves to the size of two Angula, one Angula, half Angula, Yava, half Yava and so on, just like ribs and veins of a leaf become seven hundred.
- ✚ **Doshanusara Siras:-** Raktayukta Vayuvaha Siras – 175, Raktayukta Pittavaha Siras – 175, Raktayukta Kaphavaha Siras - 175 and Raktayukta Shuddha Raktavaha Siras - 175 thus total siras are – 700. All Doshas with their normal state, they nourish the body, while on other hand, if they vitiated cause trouble to the body.
- ✚ **According to Ashtanga Sangrahar** - Guda and Medhragata Siras – 32, Parshwagata Siras – 16, Prustagata Siras –24, Udaragata Siras – 24, Chest – 40, Greevagata – 24, Hanugata – 16, Jihwagata–16.

Nasagata– 24, Netragata – 65, Karnagata – 16, Shiragata – 20.

#### ✚ According to Sushruta

**Doshanusara** – Out of seven hundred Siras, there are forty principal Siras. Out of these 10 carry Vata, 10 carry Pitta, 10 carry Kapha and 10 carry Rakta. The Vata carrying Siras, situated in the specific receptacle of that principal Vata, branch out in one hundred and seventy five smaller branches (ramifications). Similarly Pitta carrying Siras at the site of Pitta, Kapha carrying at the site of Kapha and the blood carrying at the site of Yakrita and Pleeha are found branching in the same number. In this way there are seven hundred Siras.

**Table No. 1**

Vatavaha sira -10	Vatasthanagata sira -175
Pittavaha sira -10	Pittasthanagata sira- 175
Kapha vaha sira -10	Kaphasthanagata sira- 175
Rakta vaha sira -10	Raktasthanagata sira- 175
<b>Moola sira (Total)- 40</b>	<b>Total- 700</b>

While commenting on this text, Ghanekar has said that the above description regarding the classification of Siras on the basis of Doshas doesn't mean that the forty Siras originates from Nabhi or Hridaya. By this Sushruta meant that Vatavaha Siras are those which are found in Vata predominating areas, such as Pakvashaya, Kati, Shroni, Sakti, Asthi, Sparshanendriya (skin). Similarly, Pittavaha and Kaphavaha Siras are found in Pitta and Kapha predominating areas respectively. To some extent the above comment seems to be correct, but Sushrutat's description regarding classification doesn't tally with the description given in modern books.

#### SHADANGANUSARA

**Table no. 2: Shakhagata Siras.**

Vatavaha sira	25 x 4	100
Pittavaha sira	25 x 4	100
Kapha vaha sira	25 x 4	100
Rakta vaha sira	25 x 4	100
<b>Total</b>		<b>400</b>

**Table no. 3: Koshtagata Siras.**

Vatavaha sira	34
Pittavaha sira	34
Kapha vaha sira	34
Rakta vaha sira	34
<b>Total</b>	<b>136</b>
Guda, Shishna, Shroni	08
Parshwa	04
Prushta	06
Udara	06
Vaksha	10
<b>Total</b>	<b>34</b>

**Table no. 4: Urdhvajatrugata Siras.**

Vatavaha sira	41
Pittavaha sira	41
Kapha vaha sira	41
Rakta vaha sira	41
<b>Total</b>	<b>164</b>
Greeva	14
Karnagata	04
Jivhagata	09
Nasika	06
Netragata	08
<b>Total</b>	<b>41</b>

Vatavaha sira 100+34+41=175, Pittavaha sira- Netra-10, Karna-02

Raktavaha and Kaphavaha siras are same as Pittavaha sira.

According to Bhela, it is from the heart that Rasa issues forth and from this (step onwards), the latter goes to all the places. Heart is reached by the veins and therefore the veins are said to be born of heart. [This is a clear conception of the heart-artery, vein-heart cycle of circulation of blood in the body with heart as its centre]. Ten Dhamanis are attached to the heart. These after going just four inches become twenty (i.e. every one bifurcates). In this way these ten Dhamanis become sixty (i.e. every one of these bifurcates once again). There in, these sixty Dhamanis become three hundred thousand networks of Siras. This is as follows – a tree surrounded by branches comes down everywhere by the fruits and the large foliage (Palashas) or as when it gets stretched or extended down if struck by stones, in a similar way this tree of ramifying vessels gets extended by the (networks of) Siras (in the body of the person as these spread out everywhere). In each and every pit of the hair, there is the exit aperture of the Sira, from end of which trickles down the sweat.

#### DISCUSSION AND CONCLUSION

##### AVEDHYA SIRAS

Out of 700 Siras, four hundred are in the extremities, of which sixteen are not to be cut, one hundred and thirty six are in the trunk, of which thirty two are not to be cut, one hundred and sixty-four are at the top, of which fifty are not to be cut. Those veins which the physician should not puncture, deformity and death are sure if these are punctured. The wise physician should know that four hundred (400) veins are present in the Shakhhas, 136 in Koshta and 164 in Urdhvajatrugata.

Among these 16 are in extremities. Koshtagata-32, Urdhvagata – 50, are to be considered as not suitable for puncturing.

**Table no. 5**

<b>Shakhagata sira</b>	<b>16</b>
<b>Koshtagata sira</b>	<b>32</b>
<b>Urdhvagata sira</b>	<b>50</b>
<b>Total Avedhya sira</b>	<b>98</b>

**SHAKHAGATA AVEDHYA SIRAS**

There are hundred Siras in one Sakti, among these one Sira is Jaladhara and internal Siras known as Urvis and one Lohitaksha. They are not fit for venesections. This description is applicable to the opposite Sakti, in this way Siras in Shakhas are sixteen. Comments- Dr Bhaskar Govind Ghanekar has accepted great saphenous vein in lower extremities and cephalic vein in upper extremity as Jaladhar. Femoral vein in lower extremity have been considered as Urvi and Lohitaksha Sira. So for as cephalic can and basilar vein are concerned they are superficial structure; therefore, they are to be protected. Femoral and brachial vein are deep seated structures and should not be taken for venesection. Venesection is to be performed only where there are minute veins present. Therefore, Sushruta's version of contraindicated Siras is practicable.

**KOSHTAGATA AVEDHYA SIRAS**

There are thirty two siras in the shroni, out of these are not be cut, such as two in the two Vitap and Katiktaruna. There are eight siras in each parshva, out of these two (one on each flank) spreading upward and two in the parshvasandhi, one in each flank are not to be punctured.

There are twenty four siras in prushth present in both sides of the vertebral column, out of these brihati sira two-, one on each side spreading upward should be avoided from puncturing. In Udar also the same number of (twenty four) siras are present, out of these two on each sides situated above the penis near the line of hairs should be avoided. In the Vaksha, there are forty siras, among these fourteen are not to be injured by sharp instruments (punctured)- such as two in the heart, two each in sthanamula, sthanrohita, apalapa and apasthambha, thus eight on each sides. Thus siras of prushth udar and vaksha which are not to be punctured are thirty two.

**JATRUGATA AVEDHYA SIRAS**

There are one hundred sixtyfour siras above the shoulders, out of these fifty six in the greeva, among these eight and four known as marma are to be avoided; two in the krukataka and two in vidhura; thus sixteen siras in the greeva are not to be punctured. (eight matruka, two nila and two manya- these have been mentioned as marma adding two each in krukataka and vidhura make up the number sixteen).

There are eight siras on each side of the hanu, out of these sixteen, sandhi and dhamani two on each side are to be avoided. There are thirty six in tongue, out of these sixteen which are below the tongue are not to be injured by instruments, the two rasavaha and two vakvaha are also not to be punctured.

In the nasa there are twenty four siras, out of these, four which are aupanasika are to be avoided; out of these only one sira in the soft palate also should be avoided. Siras in both the eyes together are thirty eight; out of these, one

in each apanga are to be avoided. Siras in both the ears together are ten; out of these sabdavahini sira, one in each ear should be avoided.

Siras spreading to the nose and eyes- twenty four of the nose and thirty six of the eyes- totaling sixty are present in the forehead. These follow the border of the hairs; out of these one each in the avarta and one in the sthapani are to be avoided.

There are ten siras in the two shankha together; out of these one situated at the joint of the shankha should be avoided. There are twelve siras in the head; out of these two in the two utkshepa, one each the simanta (five) and one in the adhipati are to be avoided. Thus fifty siras present above the shoulders are not to be injured by sharp instruments.

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