

## A REVIEW ON AVEDHYA SIRA WITH SPECIAL REFERENCE TO SHUSHRUTA SAMHITA

<sup>1</sup>\*Pooja Thakur and <sup>2</sup>Dr. Seema Joshi<sup>1</sup>M.D scholar, Dept. of Rachana Sharir, Rishikul Campus –Haridwar.<sup>2</sup>H.O.D. Dept. of Kriya Sharir, Rishikul Campus –Haridwar.

\*Corresponding Author: Dr. Pooja Thakur

M.D scholar, Dept. of Rachana Sharir, Rishikul Campus –Haridwar.

Article Received on 08/04/2020

Article Revised on 29/04/2020

Article Accepted on 19/05/2020

## ABSTRACT

*Sushruta Samhita* one of the great treatise of Ayurveda have described the structural concept of human body according to its clinical relevance. *Sira* is also one of the important structural concept described by *Acharya Sushruta*. In seventh *Adhyaya* of *Sharir Sthana*, *Acharya Sushruta* has given the detailed information on the subject matter of the *Siras* of the human body. In the same *Adhyaya* the *Acharya* has named some *Siras* which should not be punctured during the treatment stage. These *Siras* are called *Avedhya Sira*. These are 98 in number and are strictly prohibited for puncturing. Because puncturing of these *Avedhya Sira* may cause disability or death of a person. These *Avedhya Siras* are divided in three regions i.e.; *Shakhagat- 16*, *Koshthagat-32*, and *Urdhavjatrugata-50*. There are several examples of diseases those are cured by that venupuncture or *Siravedhan* process like *Gridhrasi*, *Ummada*, *Apasamara* etc. To know which “*Siras*” are suitable for venesection we should first of all know which “*Siras*” we should exclude while performing venesection to avoid misshappenings like deformity or death of a person.

KEYWORDS: *Sira*, *Avedhya Sira*, *Dushtavyadha*.

## INTRODUCTION

*Sushruta Samhita* one of the great treatise of Ayurveda have described the structural concept of human body according to its clinical relevance. Out of the 10 chapters described in *Sharir Sthana* of *Sushruta Samhita* 6 chapters are absolutely dedicated to different anatomical structures present in human body with vivid descriptions about their structural irremembrance with other closely related structures. For example, *Sushruta* have described “*Sira*” as a unique structural entity different from

“*Strotas*” and “*Dhamani*”.<sup>[1]</sup> He has described “*Sira*” and “*Siravedha*” in two different chapters (*Siravarnavibhaktisharim* and *Siravyadhavidhi* respectively) showing the clinico-anatomical importance of the structures described under “*Sira*”.

According to *Sushruta* origin of “*Sira*” takes place from “*Nabhi*” (i.e., “*Nabhimulam*” & *Sirabhi avritanabhi*”).<sup>[2]</sup>

■ “नाभिस्थाः प्राणिना प्राणाः प्राणान्नाभिव्युपाश्रिता ।  
सिराभिरावृता नाभि चक्रनाभिरिवारकैः ।।” ( सु० शा० ७ / ५ )

*Prana* resides in the veins of the umbilicus and umbilicus is the seat/residence of *veins*; the umbilicus is surrounded by *Sira* in a manner that similar to the axle hole being surrounded by spokes.<sup>[3]</sup> This phenomenon can be clearly illustrated with a further example of caput medusae. The radiating dilated veins seen under the umbilical skin are referred to as the caput medusae.<sup>[4]</sup> Caput medusae also known as palm tree sign, is the appearance of painless distended and engorged superficial epigastric veins, which are seen radiating from the umbilicus across the abdomen. (Portosystemic anastomosis). Also in intrauterine life origin and end of vein takes place around

umbilicus. May be *Sushruta* derived this concept from the embryological origin of veins.

His vivid description about structural and functional components of *Sira* is related with its clinical significance for “*Siravedha*” (or venesection). He has accepted “*Siravedha*” as *Chikitsa Ardha* (or half of the treatment)<sup>[5]</sup> In the chapter *Siravyadhavidhi*, he has described how and where *Siravedha* should be done and which “*Siras*” are unsuitable for venesection. To know which “*Siras*” are suitable for venesection we should first of all know which “*Siras*” we should exclude

while performing venesection. *Sushruta* has described in total 700 *Siras*,<sup>[6]</sup> and 98 *Siras* as *Avedhya Siras*. These *Avedhya Siras* are divided in three regions i.e.; *Shakhagat-16*, *Koshthagat-32*, and *Urdhavjatrugata-50*.

### MATERIALS AND METHODS

Material- Relevant text books of *Ayurveda*, their commentaries and modern anatomy books.

**Method-** All sorts of the references regarding *Avedhya Sira* collected and compiled from various available *Ayurvedic* classics text like *Sushruta Samhita*, *Ashtanga Hridaya*, *Ashtanga Samgraha*, available commentaries and modern anatomy books like Gray's anatomy, B.D. Chaurasia etc.

### *Avedhya Sira*

The word meaning of *Avedhya* is unpierceable, not to be pierced<sup>[7]</sup> and word meaning of *Sira* is any tubular vessel of the body.<sup>[8]</sup> *Avedhya Sira* should not be damaged during *Siravedhan* procedure because their damage can cause severe complications or even death. The description of *Avedhya Sira* follows these principles.

■ Puncturing of *Avedhya Siras* is mentioned as one among the 20 *Dushtavyadha Lakshanas*.<sup>[9]</sup> They are.

1. *Durvidha*: deficiently punctured.
2. *Aathividha*: excessively punctured
3. *Kunchitha*
4. *Pichitha*: punctured using blunt instruments.

■ तथाक्षुद्रिकाः कुटिलाः संकीर्णाः ग्रन्थिताः संधिषु चाशस्त्रकृत्याः ॥ (अ०सं०शा० ६ / १९)

*Sira* which are very small, dodgy, tortuous, thrombosed and those over the joints are not to be punctured.<sup>[10]</sup>

■ अवेध्यास्तत्र कात्स्न्येन देहेऽष्टानवस्थिता ।  
संकीर्णा ग्रन्थिताः क्षुद्रा वक्राः संधिषु चाश्रिताः ॥ (अ०हृ०शा० ३ / ३४)

Apart from these 98 *Avedhya Sira*, those which are fused together, formed into lumps, very minute, curved and

5. *Kuttitha*: puncturing a vein again and again that which is invisible.
6. *Aaprasruta*: blood not coming out due to cold, fear or faintness.
7. *Aathyudeerna*: excess discharge of blood as punctured with large tipped or sharp instruments.
8. *Aanthe vidha*: punctured at margin.
9. *Parishushka*: when punctured *Vata* fills in the vein due to less blood.
10. *Kunita*: here only one fourth of the portion is only punctured.
11. *Vepita*: due to improper ligature there will be shaking.
12. *Aanudha vidha*: when *Sira* is not raised.
13. *Shastrahatha*: causes *chhina vrana* due to improper use of instrument, which will further lead to dysfunction of the body part.
14. *Tiryak vidha*: when the instrument is obliquely applied.
15. *Aavidha*: due to use of instrument of inferior quality.
16. *Avyadha*: puncturing of *Avedhya Siras*.
17. *Vidruta*: the *Sira* which is punctured while unsteady.
18. *Dhenuka*: if puncturing at site of frequently discharging wounds.
19. *Punaha punaha vidha*: frequently punctured with small instruments.
20. *Sira snayu asthi* and *sandhi Marmas*.

located around joints are considered as *Avedhya Sira*.<sup>[11]</sup>

■ अवेध्यास्तत्र कात्स्न्येन देहेऽष्टानवस्थिता ।  
संकीर्णा ग्रन्थिताः क्षुद्रा वक्राः संधिषु चाश्रिताः ॥ (अ०हृ०शा० ३ / ३४)

*Avedhya Siras* are those which must be avoided from injury during *Siravedhan* procedure. Injury to these *Siras* may lead to severe and permanent disability and leads to death.<sup>[12]</sup>

Out of seven hundred *Siras* 400 are present in *Shakhas*, 132 in *Koshtha* and 164 above the level of clavicles. Among these, 16 in the extremities, 32 in the trunk and 50 in the head and neck region are considered as *Avedhya Sira*.<sup>[13]</sup>

■ धमन्यो विशिष्टे सिरा एव । तश्च संख्या चतुर्विंशति ॥ (अ०सं०शा० ६ / ९, इन्दुटीका)

It is stated that *Dhamani* are typical type of *Sira*. They are 24 in number.<sup>[14]</sup>

- यथा स्वभावतः खानि मृणालेषु बिसेषु च ।। धमनीनां तथा खानि रसो येरुपचीयते ।। (सु० शा० ९/१०)

As by nature, there is hollow space within lotus stalk and steam, *Dhamani* also have similar channelized space by

which *Rasa* is received and circulated.<sup>[15]</sup>

- हन्चोरुभयतोऽष्टावष्टौ, तासां तु संधिधमन्यौ द्वे द्वे परिहरेत् । (सु०शा० ७/२२)

On each side of jaw (temporomandibular joint) 8 *Sira* present of which *Sandhidhamani* two on each side are

*Avedhya Sira*.<sup>[16]</sup> Here also we can understand that in *Dhamani* word is also used for *Avedhya Sira*.

#### Location of *Avedhya Sira* According to *Shushruta Samhita*<sup>[17]</sup>

Sr. No:	Locations	No: of Siras	No. of Avedhya Siras	Description	Modern Correlation (According to Dr. B.G. Ghanekar)
1.	<i>Shakha</i>	100 x 4	4 x 4	<i>Jaladhara</i> 1, <i>Urvi</i> 2, <i>Lohitaksha</i> 1	Great Saphenous veins, Femoral vessels, Cephalic veins, brachial vessels, axillary vessels
2.	<i>Shroni</i>	32	8	2 in <i>Vitapa</i> (2+2), 2 in <i>Katikataruna</i> (2+2)	Spermatic vessels Gluteal vessels
3.	<i>Parshwa</i>	16	2	1 going up on each side (1+1)	
4.	<i>Prushta</i>	24	4	2 <i>Brihati</i> on each side (2+2)	Subscapular artery
5.	<i>Udara</i>	24	4	2 on each side above hair line of penis (2+2)	Inferior epigastric vessels
6.	<i>Uras</i>	40	14	2 in <i>Hridya</i> , 2 each in <i>Stana mula</i> & <i>Stanaro-hita</i> (4+4), 1 each in <i>Apalapa</i> & <i>Apastambha</i> (2+2)	Intercostal vessels Internal mammary vessels Lateral thoracic vessels
7.	<i>Greeva</i>	56	16	<i>Nila</i> , <i>Manya</i> , <i>Kṛikaṭika</i> & <i>Vidhura</i> each 2 (2×4), <i>Matṛika</i> 8	External, Internal Carotid arteries and jugular veins. Posterior auricular vessels
8.	<i>Hanu</i>	16	4	2 <i>Sandhidhamani</i> on either side (2+2)	Internal maxillary vessels
9.	<i>Jihwa</i>	36	4	2 for <i>Shabda</i> , 2 for <i>Rasa</i> .	Profunda lingulae vessels
10.	<i>Nasa</i>	24	5	4 in <i>Upanasa</i> , 1 in <i>Talu</i>	Angular vessels
11.	<i>Netra</i>	38	2	1 in each <i>Apanga</i> (1+1)	Palatine Vessels
12.	<i>Karna</i>	10	2	1 <i>Shabdavahi</i> (1+1)	Anterior tympanic vessels
13.	<i>Lalata</i>	60	7	4 in margin of hair line, 1 each in both <i>Avarta</i> (1+1), 1 in <i>Sthapani</i> .	Supraorbital, Superficial temporal vessels, Frontal branch of the superficial temporal, Nasal branch of the frontal vein
14.	<i>Shankha</i>	10	2	1 in each <i>Shankasandhi</i> (1+1)	Superficial temporal vessels
15.	<i>Moordha</i>	12	8	1 <i>Adhipathi</i> , 2 <i>Utkṣepa</i> , 5 <i>Simanta</i> .	Parietal branch of superficial temporal, branches of occipital and superficial temporal vessels
	<i>Total</i>	798	98		

#### DISCUSSION

- *Jaladhara Sira* is considered as cephalic vein in upper extremity by *Dr. B.G. Ghanekar*. It is a principle vein of the upper extremities, so if punctured severe blood loss may occur. Similar consequences may also observed with the great saphenous vein in lower extremities. *Urvi Sira* considered as brachial and femoral vessels while *Lohitaksha* is considered as axillary and profunda femoris vessels, venesection to these can cause severe blood loss which may leads to even death of a person.
- *Vitap* and *Katikataruna Sira* are considered as vessels for gonads and gluteal region by *Dr. B.G. Ghanekar*. Venesection of these vessels may cause necrosis of

gonads and gluteal muscles. *Brihati* is considered as Subscapular vessel, Venesection of this may cause nerve injury and leads to paralysis. *Apalapa*, *Apastambha*, *Stanmoola* and *Stanrohita* are considered as coronary vessels, internal mammary vessels, intercostal vessels, lateral thoracic vessels. Venesection of these vessels may cause adverse effect to the heart, because these are present almost nearer to the heart.

- *Greevagat Avedhya Siras* are correlated with internal and external carotid arteries, jugular veins, occipital vessels and posterior auricular vessels by *Dr. B.G. Ghanekar*. This may be because these are related to vital components of the body. *Sandhidhamanyau* i.e.;

internal maxillary vessels by puncturing them it may lead to *Manyastambha* due to lack of blood in the *Hanu*. *Rasavahe* and *Vagvahe* are correlated with Profunda linguae vessels. Necrosis of tongue may be seen by venesection of these vessels. *Aupnasikya* are considered as angular vessels. Severe blood loss in little's are can occur by puncturing these vessels. *Apanga* is correlated with zygomaticotemporal artery by Dr. B.G. Ghanekar. Venesection of this may cause vision loss or another complication. *Shabdavahini Sira* i.e., posterior auricular and tympanic vessels are contraindicated for venesection may be because of its relation to the delicate organ. *Keshantanugata Sira* i.e.; supraorbital and termination of frontal branch of the superficial vessels are contraindicated for venesection may be due to being more superficial. *Avarta Sira* i.e.; the frontal branch of the superficial vessels. *Shapani* i.e., nasal branch of the frontal veins are also contraindicated may be due to situation on more sensitive part of the face. *Utkshepa Sira* is correlated with parital branch of superficial temporal and *Adhipati Sira* with occipital and superficial temporal by Dr. B.G. Ghanekar. These are contraindicated for Venesection, this may be due to avoid the poor drainage of scalp.

Thus, the anatomy and physiology of *Sira* has been mentioned detailed in our classics. *Acharya Sushruta* has elaborately mentioned about the *Siras* which are not to be punctured. The concept of *Sira* is vast and *Acharya Sushruta* has devoted on entire chapter for the description of the same. The school of *Sushruta* exerts importance to few selected fatal vessels. *Avedhya Siras* are surgically important since trauma to these during surgery proves to be fatal. This also infers that school of *Sushruta* was very much advanced in vascular surgery. They were aware of these *Siras* which need care during surgery. *Ghanekar's* concept for *Avedhya Sira* being major vessels, give the idea of vascular phenomenon. Considering all the references here an attempt has been made to understand about the *Avedhya Siras* in general.

## CONCLUSION

*Siravedhan* as method of treatment is frequently used in *Ayurveda* to treat the diseases like *Gridhrasi*, *Unmada*, *Apasamara* etc. It is a useful method of treatment because the diseases which are cured by *Siravedhan* can't recur as mentioned by *Acharyas*. *Avedhya Sira* are the anatomical structures which are either deep seated vessels or superficial large vessels which can be leads to any type of deformity or death in a person, if undergoes *Siravedhan*. Therefore it is essential for the physician and surgeons to follow these perfect guidelines and avoid *Siravedha* of these 98 *Avedhya Sira* in a person.

## REFERENCES

1. Sushrut Samhita – Edited with Ayurveda Tattva sandipika by Kaviraj Ambikadutt Sashtri, Edition 2014, Sharir Sthan chapter no 9, shloka no 3, page

- no 93, Chaukhamba Sanskrit Sansthan, Varanasi.
2. Sushrut Samhita – Edited with Ayurveda Tattva sandipika by Kaviraj Ambikadutt Sashtri, Edition 2014, Sharir Sthan chapter no 7, shloka no 3, page no 79, Chaukhamba Sanskrit Sansthan, Varanasi.
3. Sushruta Samhita – English commentary by Prof. K.R. Shrikantha Murthy Sharir Sthan Edition 2004 Chapter 7, shloka no 5, page no 122, Chaukhambha Orientalia Varanasi.
4. Gray's Anatomy- The anatomical basis of Clinical Practice, Thirty ninth Edition, Editor- in- chief Susan Standring Phd DSC chapter no 67.
5. Sushrut Samhita – Edited with Ayurveda Tattva sandipika by Kaviraj Ambikadutt Sashtri, Edition 2014, Sharir Sthan chapter no 8shloka no 2 page no 91, Chaukhamba Sanskrit Sansthan, Varanasi.
6. Sushrut Samhita – Edited with Ayurveda Tattva sandipika by Kaviraj Ambikadutt Sashtri, Edition 2014, Sharir Sthan chapter no 7, shloka no 3, page no 78, Chaukhamba Sanskrit Sansthan, Varanasi.
7. A Sanskrit-English Dictionary: Sir M. Monier Williams, published by Bharatiya Granth Niketan, Edition- 2007, Page No.- 1217.
8. Sushrut Samhita (illustrated) Vol. 1, English translation, Shrikantha Murthy K.R; Published by Chaukhamba Orientalia, Varanasi, 2nd Edition, 2004, Sharir Sthan Chapter 8/19, page no.- 137.
9. Ashtanga Sangraha (Sharirasthanam) of Vagbhata with Subodhini Hindi Commentary and Uimarsa notes Chaukhambha Orientalia Varanasi Reprint edition: 2008, Sharir Sthan Chapter 6/19, Page no.- 129.
10. Ashtang Hridayam of Vagbhata edited with Vidyotini Hindi Commentary by Kaviraj Atrideva Gupta Chaukhamba Prakashan Varanasi Edition; reprint 2016, Sharir Sthan 3/34. Page no.- 253.
11. Sushrut Samhita (illustrated) Vol. 1, English translation, Shrikantha Murthy K.R; Published by Chaukhamba Orientalia, Varanasi, 2nd Edition, 2004, Sharir Sthan Chapter 7/19, page no.- 125.
12. Sushrut Samhita (illustrated) Vol. 1, English translation, Shrikantha Murthy K.R; Published by Chaukhamba Orientalia, Varanasi, 2nd Edition, 2004, Sharir Sthan Chapter 7/20-21, page no.- 127.
13. Ashtang Sangraha with Indu Commentary, Vd. A.V. Athavale, Shimat Atreya Prakashan, Pune, Print-1980, Sharir Sthan 6/9 page no.- 307.
14. Sushrut Samhita 'Commentary of Shri Dalhanacharya, Yadavaji Trikamji Acharya, reprint-2013, Chaukhamba Sanskrit Sansthan, Varanasi, Sharirasthan Chapter-9/10, page no.- 385.
15. Sushrut Samhita 'Commentary of Shri Dalhanacharya, Yadavaji Trikamji Acharya, reprint-2013, Chaukhamba Sanskrit Sansthan, Varanasi, Sharirasthan Chapter-7/22, page no.- 378.
16. Sushrut Samhita (illustrated) Vol. 1, English translation, Shrikantha Murthy K.R; Published by Chaukhamba Orientalia, Varanasi, 2nd Edition, 2004, Sharir Sthan Chapter 7/22, page no.- 127.