

## INTERPRETATION OF URDHWA SHAKHAGAT VEDHYA SIRA

<sup>1</sup>Kadam Rupaji J.,

<sup>2</sup>Pandit S.V.,

<sup>1</sup>Associate professor, B.V.D.U. College of Ayurved, Pune,

<sup>2</sup>Professor, B.V.D.U. College of Ayurved, Pune.

### ABSTRACT :

While learning Anatomy with Ayurvedic perspective, students encounter number of controversial concepts which has to be clarified e.g. *Srotas*, *Snayu*, *Sira*, *Kala* etc. *Sira* is one of the intricate and essential concepts. *Vedhan* of *Sira* (Puncturing of veins) i.e. *Siravedhan* is one of the modality in practice in the management of various diseases. Hence considering its importance a conceptual study has to be carried out to know underlying structure for sites of *Urdhwa Shakhagat Vedhya Sira*. In this study, it is observed that *Sira* can correlate with the blood vessels and Lymphatics. The *Siravedha* sites in *Urdhwa shakha* are identified in terms of modern nomenclature to particular site. Then the identified site is correlated with the underlying superficial vein at the particular location. Thus the underlying superficial veins are confirmed and considered as *Vedhya Sira* of that site in particular diseases. The study confirms that, the *Urdhwa Shakhagat Sira* i.e. Left median cubital vein or left dorsal digital veins (inbetween Ring and little finger), Right median cubital vein or right dorsal digital veins (inbetween Ring and little finger), Cephalic and basalic vein 4 *angula* above or below elbow joint has to be considered as *Vedhya Sira* in *Plihavridhi*, *yakrudakhy* and *Kasa-Shwas*, *Vishwachi* respectively.

**Keywords :** *Sira*, *Siravedhan*, *Vedhya Sira*.

**INTRODUCTION:** *Sira* is one of the intricate, controversial but essential concepts that is encountered while learning anatomy with Ayurvedic perspective. *Siravedhan* is one of the important modality in practice in the management of various diseases like *Grudhrasi*, *Unmad*, *Apasmar* etc<sup>1</sup>. However, nowadays *Siravedhan* is found less in practice, may be due to lack of first hand information as well as experienced *Vaidyas* or due to lack of confidence. *Sushruta* has mentioned specific sites for *Siravedhan* and he also mentioned sites for *Avedhya Sira*. *Sushruta* has stated *Siravedhan* as a half (prime) the *Chikitsa* in *Shalyatantra* like *Basti* in *Kayachikitsa*<sup>2</sup>. For the desired outcome in treatment and to avoid complications due to puncture of *Avedhya Sira*, complete knowledge of

*Siravedhan* is essential. So it becomes invariably essential for *Siravedhan* to find out the anatomical structures to which one can label as *Vedhya* and *Avedhya Sira*. Hence considering its importance a conceptual study has to be carried out to know underling structure for sites of *Urdhwa Shakhagat Vedhya Sira*.

**AIM:** To confirm anatomical structure of *Urdhwa Shakhagat Vedhya Sira*

### OBJECTIVES:

1. To confirm exact sites of *Siravedha* in *Urdhwa Shakha* as per modern anatomy
2. To correlate Sites of *Urdhwa Shakhagat Vedhya Sira* with underlying anatomical Structures

### MATERIALS:

- 1) Literature: *Bhrihadtrayee*, Previous Research work

2) Modern Literature: Gray's Anatomy, B.D. Chaurasia's Human Anatomy etc.

### METHODOLOGY:-

#### Literature study

A. Corelation of *Sushrutokta Sira* with anatomical structure.

B. Findings of anatomical location for *Urdhwa Shakhatagat* sites of *Siravedhan* and their interpretation with underlying structure.

| S.N. | AYURVEDA  | MODERN  |
|------|---|---|
| 1    | <b><i>Aruna ( Vatavahi )</i></b>  | <b>Capillary</b>  |
|      | Convey <i>Vata dosha</i> . Blackish red in colour. Minute, if pressed suddenly get emptied and after removing pressure suddenly fill. | Convey deoxygenated blood. Blackish red in appearance. Minute, if pressed suddenly emptied and after removing pressure suddenly fill. |
| 2    | <b><i>Neela ( Pittavahi )</i></b>   | <b>Vein</b>   |
|      | Convey <i>Pitta dosha</i> . Blue in appearance and are warm.  | Convey deoxygenated blood. Blue in appearance.  |
| 3    | <b><i>Gauri ( Kaphavahi )</i></b>   | <b>Lymph vessel</b>   |
|      | Convey <i>Kapha dosha</i> . White in colour. Steady, sheet and nutritive.   | Convey lymph. White or colourless. They are nutritive, cold and beaded.   |
| 4    | <b><i>Rohini ( Raktavahi )</i></b>  | <b>Artery</b>   |
|      | Convey Suddha Rakta. Red in colour. Neither warm nor cold.  | Convey oxygenated blood and nutritive. Red in appearance.   |

Hence we can correlate the *Sira* with the blood vessels and Lymphatics as follows:

1. *Aruna Sira* can be correlated with Capillaries.
2. *Neela Sira* can be correlated with Veins.
3. *Gauri Sira* can be correlated with Lymph vessels.
4. *Rohini Sira* can be correlated with Arteries.

#### B. Findings of anatomical location for *Urdhwa Shakhatagat* sites of *Siravedhan* and their interpretation with underlying structure

The *Vedhya Sira* in *Urdhwa Shakha* are explained based on following points for these *Siravedhan* indicated *Vyadhi*, viz 1) *Pleehodara* 2) *Yakrudakhy* 3) *Kasa-Shwas*<sup>8</sup> 4) *Vishvachi*

**A. Corelation of *Sushrutokta Sira* with anatomical structure:** According to *Ayurveda*, *Sira* nourishes the body<sup>3</sup> and as per the modern science body is nourished by blood vessels and lymphatics.<sup>4</sup> It can be observed easily from following table of comparison On the basis of colour, types of *Sira*.<sup>5,6,7</sup>

- i) Site with justification
- ii) Structures at considered site

#### ***1) Pliha Vridhi:***<sup>8</sup>

In diseases of *Pleeha*, *Siravedha* should be done especially in the left upper limb at the medial side of *Kurpar Sandhi* (elbow joint) in the center of the arm or in the area between *Kanistika* and *Anamika* (between the left little and ring fingers).

**i) Site with justification:** *Sushruta* told medial aspect of *Kurpar*, in anatomy elbow joint have only anterior and posterior aspect. Hence, here we have considered medial aspect of anterior side of the elbow or in between little and ring finger of left hand.

#### ***ii) Structures at considered site:***

**Site 1:** At the left elbow joint prominent median cubital veins links cephalic and

basalic vein. It receives number of tributaries from the front of forearm and gives off the median vein, which pierces the facial roof of antero-cubital fossa to join the venae commitants of brachial artery. So the vein recommended for *Siravedha* may be median cubital vein of left elbow<sup>9</sup>.

**Site: 2.** Alternative, *Sushruta* has indicated the use of vein situated in between little finger and ring finger may be used for *Siravedha*. As per context, dorsal digital veins from lateral side of the little finger and medial side of the ring finger of left hand can be cosider for *Siravedha*<sup>10</sup>.

**2) *Yakrudakhy* (*Kaphodara*)<sup>8</sup>:**

In diseases of *Yakrudakhy*, *Siravedha* should be done especially in the right upper limb at the medial side of *kurpar Sandhi* (elbow joint) in the center of the arm or in the area between *Kanistika* and *Anamika* (between the right little and ring fingers).

**i) Site with justification:** *Sushruta* told medial aspect of *Kurpara*, in anatomy elbow joint have only anterior and posterior aspect. Hence, here we have considered medial aspect of anterior side of the elbow, or in between little and ring finger of right hand.

**ii) Structures at considered site: site 1.** At the right elbow joint prominent median cubital veins links cephalic and basalic vein. It receives number of tributaries from the front of forearm and gives off the median vein, which pierces the facial roof of antero-cubital fossa to join the venae commitants of brachial artery. So the vein recommended for *Siravedha* may be median cubital vein of right elbow<sup>9</sup>.

**Site: 2.** Alternative, *Sushruta* has indicated the use of vein situated in between little

finger and ring finger may be used for *Siravedha*. As per context, dorsal digital veins from lateral side of the little finger and medial side of the ring finger of right hand can be cosider for *Siravedha*<sup>10</sup>.

**3) *Kasa- Shwas*<sup>8</sup>:** Same as *Yakrudakhy*.

**4) *Vishvachi*<sup>8</sup>:** In *Vishvachi* pain in the arm will be similar to that of *Grudhrasi*, so *Siravedha* at 4 *Angula* above or below *Kurpara Sandhi* is done.

**i) Site with justification:** 4 *Angula* above the *Kurpara* (elbow joint) and 4 *Angula* below the *Kurpara* (elbow joint) on both aspects.

**ii) Structures at considered site:** 4 *Angula* above from the elbow joint there is one prominent vein i.e. cephalic vein. 4 *Angula* below from the elbow joint on both lateral and medial aspect there are two veins. One is cephalic vein and another is basilic. Cephalic vein that begins from the lateral end of the dorsal venous arch. It runs upwards wind around the lateral border of forearm, continues upwards along the lateral border of biceps. It pierces deep fascia of pectoralis major. It pierces the clavipectoral fascia and joints of axillary veins<sup>11</sup>.

Basilic vein which is a post-axial vein of upper limb that begins with the dorsal venous arch runs upwards along the medial border of the fore arm winds around the elbow where it pierces the deep fascia and lastly runs around the medial side of the brachial artery<sup>11</sup>.

**OBSERVATIONS:** The site of *Siravedha* can be interpreted with the modern anatomical structures listed in tables. Here, we have considered superficial veins at that particular site as *Vedhya Sira*.

**Urdhwashakha - Interpretative sites of Vedhya Sira**

| S.N. | Vyadhi <sup>8</sup> | Sushrutokta sites for Siravedha <sup>8</sup>  | Modern structure and site   |
|------|---------------------|---|---|
| 1    | Pliha Vriddhi       | Inner side of Kurpura Sandhi (at the centre of vaama-Bahu) OR at middle of left Kanistika and Anamika     | Median cubital vein of the left side <sup>9</sup> .or left dorsal digital veins <sup>10</sup> ( in-between little and ring finger) See Fig. No. 2.    |
| 2    | Yakrudakhyā         | Inner side of Kurpara Sandhi (at the centre of Dakshina-Bahu) OR at middle of right Kanistika and Anamika | Median cubital vein of the right side <sup>9</sup> .or right dorsal digital veins <sup>10</sup> ( in-between little and ring finger)- See Fig. No. 3. |
| 3    | Kasa – Shwasa       | Inner side of Kurpar Sandhi (at the centre of Dakshina-Bahu) OR at middle of right Kanistika and Anamika  | Median cubital vein of the right side <sup>9</sup> .or right dorsal digital veins <sup>10</sup> ( in-between little and ring finger) See Fig. No. 3   |
| 4    | Vishvachi           | 4 Angula Pradesh above or below Kurpara Sandhi  | Cephalic and basalic veins, <sup>11</sup> 4 angula above or below the elbow joint, lateral and medial respectively. See. Fig. No.1                    |

**DISCUSSION:** In this conceptual study, discussion regarding general interpretation of *Vedhya Sira* is essential to further know the underlying structure for *Urdhwa Shakshagat Vedhya Sira*.

**Interpretation of Vedhya Sira:** In *Sushruta Samhita*, exact numbers of *Avedhya Sira* are given with their name and site. But while explaining *Siravedha*, specific name and number of *Vedhya Sira* is not mentioned. However, only sites of *Siravedha* are stated. Though the sites of *Siravedha* are mentioned in *Samhita*, the interpretation about underlying structure of these sites is not available in any texts and literary research related to *Vedhya Sira*. So we tried to interpret the underlying structure for *Vedhya Sira* through this study for clarity of the concept.

A) On the basis of *swabhav* of *Sira*: In the 8<sup>th</sup> chapter of *Sharirsthan*, *Sushruta* described about *swabhav* of *Sira* that nobody is trained in puncturing *Sira* as they are unsteady i.e. change their position like fish. Hence has to be punctured

skillfully.<sup>12</sup> Feature of *Vedhya Sira* is *Matsyavat* means slippery in nature and as we observe practically, superficial veins where deep fascia is absent e.g. dorsum of hand and foot are also slippery. So *Vedhya Sira* has been considered as superficial veins.

B) On the basis of procedure for *Siravedha*:

*Sushruta* told that *Sira* must be visible before *Vedhan* and to make them visible should be tied with cloth, leather, inner bark of trees, cripper, slender branch or any other material.<sup>13</sup> In modern treatment tourniquet is applied to make superficial veins prominent<sup>14</sup>.

From this context also, it is clear that superficial veins should be considered for *Siravedha vidhi*. With these aforesaid two references - A. *Swabhav* of *Sira* and B. Procedure of *Siravedha*, it is clear that only superficial veins can be considered for *Siravedha*.

**Interpretation of sites of Urdhwa Shakshagat Vedhya Sira:** The probable

confirmation of anatomical structure for *Urdhwa Shaktagat Vedhya* has been discussed on the basis of interpretation of observations drawn from Conceptual study. The correlation of *Urdhwa Shaktagat Vedhya Sira* with underlying anatomical structure is carried out with the textual references available regarding *Siravedha* sites in *Urdha Shakha* mentioned in various diseases like *Pleehodara*, *Yakrudakya*, *Vishvachi*, *Kasashwas*. The *Siravedha* sites in *Urdhwa Shakha* are identified in terms of modern nomenclature to particular site. Then the identified site is correlated with the underlying superficial vein at the particular location. Thus the underlying superficial veins are confirmed and considered as *Vedhya Sira* of that site in particular diseases.

Eg. In *Plihavridhi*, the *Siravedhan* site is either inner side of *Kurpara Sandhi* or middle of left *Kanistika* and *Anamika*. As per modern anatomy these are medial aspect of anterior side of elbow joint or inbetween Ring and little finger of left hand respectively. The respective

underlying structures at these sites are Median cubital vein of the left side<sup>9</sup>.or left dorsal digital veins<sup>10</sup> (inbetween Ring and little finger).

Thus these veins can be considered as *Vedhya Sira* in *Plihavridhi*.

**CONCLUSION:** The present conceptual study confirms that, the *Urdhwa Shaktagat Vedhya Sira* are the superficial veins of the particular sites as,

- 1) Left median cubital vein or left dorsal digital veins (inbetween Ring and little finger) has been considered for *Siravedhan* in *Plihavridhi*.
- 2) Right median cubital vein or right dorsal digital veins (inbetween Ring and little finger) has been considered for *Siravedhan* in *Yakrudakya* and *Kasashwas*.
- 3) Cephalic and basalic vein 4 *Angula* above or below elbow joint has been considered for *Siravedhan* in *Vishvachi*.

**Acknowledgement:** We are thankful to Bharati Vidyapeeth Deemed University, Principal- B.V.D.U. College of Ayurved, Pune. for their support to promote us.

Fig. 1. Anterior Aspect of Right Upper Extremity

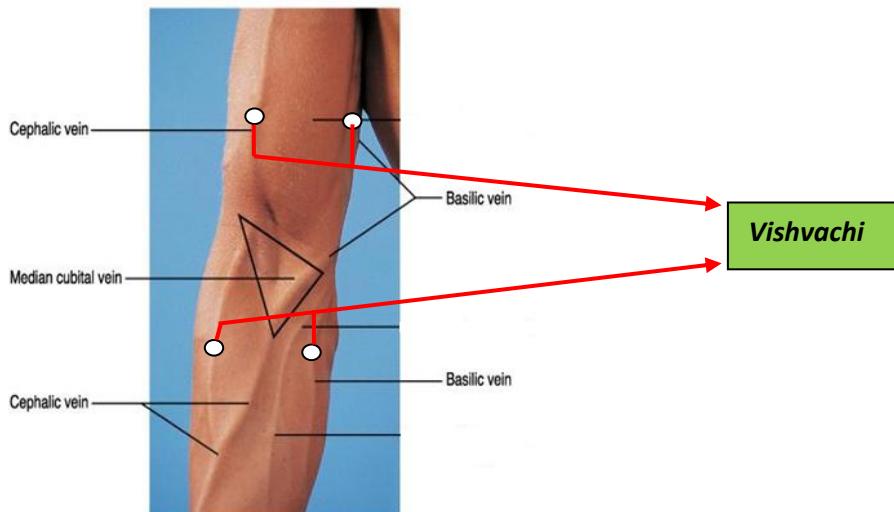


Fig. 2. Anterior Aspect of Left Upper Extremity & Dorsal Aspect of Left Hand

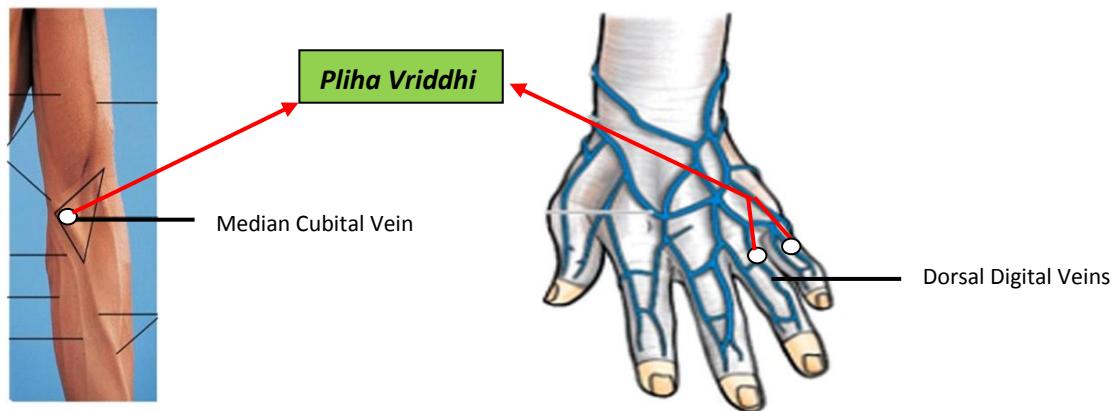
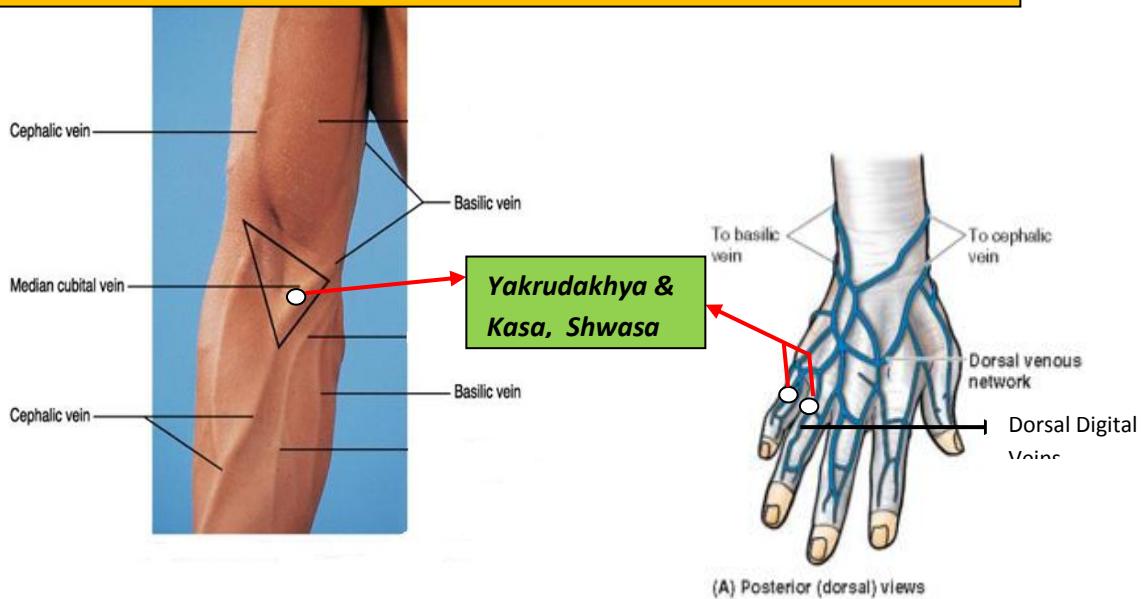


Fig. 3. Anterior Aspect of Right Upper Extremity & Dorsal Aspect of Right Hand



## REFERENCES:

1. Yadavaji Trikamji Acharya, (Reprint, 2013) Sushruta Samhita 'Commentary of Shri Dalhanacharya, Chowkhamba Sanskrit Sansthan, Varanasi, Sharir Sthan Chapter-8, verse-17. Pg.381
2. Yadavaji Trikamji Acharya, (Reprint, 2013) Sushruta Samhita 'Commentary of Shri Dalhanacharya, Chowkhamba Sanskrit Sansthan, Varanasi, Sharir Sthan Chapter-8, verse- 23. Pg.383.
3. Yadavaji Trikamji Acharya, (Reprint, 2013) Sushruta Samhita 'Commentary of Shri Dalhanacharya, Chowkhamba Sanskrit Sansthan, Varanasi, Sharir Sthan Chapter- 7, verse-3. Pg.376
4. Susan Standring, (40<sup>th</sup> Edition, 2008), Gray's Anatomy, Churchill Livingstone Elsevier- London, Chapter- 6, Pg-130
5. <http://sciencline.ucsb.edu/getkey.php?key=2927> (Visited on 15/3/2016)
6. [http://www.answers.com/Q/What\\_color\\_are\\_capillaries](http://www.answers.com/Q/What_color_are_capillaries) (Visited on 15/3/2016)
7. Susan Standring, (40<sup>th</sup> Edition, 2008), Gray's Anatomy, Churchill Livingstone Elsevier- London, Chapter- 6, Pg-139
8. Yadavaji Trikamji Acharya, (Reprint, 2013) Sushruta Samhita 'Commentary of Shri Dalhanacharya, Chowkhamba Sanskrit Sansthan, Varanasi, Sharir Sthan Chapter- 8, verse-17. Pg.381.
9. B.D.Chourasia, (4<sup>th</sup> edition 2004, reprinted 2005), Human Anatomy vol.1, CBS Publishers & distributers new delhi, chapter 6 Pg-71.
10. Susan Standring, (40<sup>th</sup> Edition, 2008), Gray's Anatomy, Churchill Livingstone Elsevier- London, Chapter- 50, Pg- 894.
11. B.D.Chourasia, (4<sup>th</sup> edition 2004, reprinted 2005), Human Anatomy vol.1, CBS Publishers & distributers new delhi, chapter 6 Pg-70-71
12. Yadavaji Trikamji Acharya, (Reprint, 2013) Sushruta Samhita 'Commentary of Shri Dalhanacharya, Chowkhamba Sanskrit Sansthan, Varanasi, Sharir Sthan Chapter- 8, verse-20. Pg.383.
13. Yadavaji Trikamji Acharya, (Reprint, 2013) Sushruta Samhita 'Commentary of Shri Dalhanacharya, Chowkhamba Sanskrit Sansthan, Varanasi, Sharir Sthan Chapter- 8, verse-6. Pg.379.
14. Gerardi Tortora and Sandra Reynolds Grabowski, (Edition- 8<sup>th</sup>), Principles of Anatomy and Physiology, House- Harper Collins College, Chapter- 19, Pg- 554

**Corresponding Author:** Dr. Kadam Rupaji J., M.D. (RachanaSharir), Associate professor, B.V.D.U. College of Ayurved, Pune, rupajik@gmail.com

Source of support: Nil

Conflict of interest: None

Declared

*Cite this Article as: Kadam Rupaji J. Et Al : Interpretation Of Urdhwa Shaktagat Vedhya Sira*