AYUSHDHARA
ISSN: 2393-9583 (P)/ 2393-9591 (O)
An International Journal of Research in AYUSH and Allied Systems

Review Article

A REVIEW ON CONTROVERSIES AND CLINICAL ASPECTS OF *PARIBHASHA SHARIR*

Chavan Shravani Prakash[1]*, Sharma Gopal B.[2]

*[1]M.D. Scholar, [2]Professor and Guide, Dept. of Rachana Sharir, Govt. Ayurved College & Hospital, Nagpur, Maharashtra, India.

KEYWORDS: *Paribhasha Sharir, Rachana Sharir, Ayurveda, Sharir.*

***Address for correspondence**
Dr. Shravani Prakash Chavan
GACH Nagpur, Umred Road,
Sakkardara, Nagpur- 440024
Contact No: 9029028426
Email: cute.shravu@gmail.com

ABSTRACT

Sharir Rachana is an integrative branch of Ayurveda that studies the human body in its most minute form to an organized structural form. Sushruta, first carried out a detailed cadaveric study of the human body around 2000 yrs ago and laid the bedrock of *Sharir Rachana Vigyan* in his *Samhita*. Cadaveric studies thus helped the ancient seers explore many structures of human body and thus with the passing time this scientific branch evolved with a complex nomenclature of the various body parts. These nomenclatures and definitions of the basic bodily structures are compiled under the heading of *Paribhasha Sharir*. The knowledge of *Paribhasha Sharir* holds utmost importance in the field of surgery and medicine as well. However lack of social and technological advancements in the era when Ayurveda was encrypted by the Sages, there emerged out various controversies over a particular structure. Acharyas have stated out individual opinions over a single structure that created a big confusion to the forth coming generations. With developments in recent times these confusions were gradually resolved keeping the original texts and definitions unaltered. Thus the present article is a framework that reviews the controversies and applied aspects of *Paribhasha Sharir* in *Rachana Sharir Vigyan*.

INTRODUCTION

Rachana Sharir in Ayurveda studies the embryological and structural organization of the human body. *Paribhasha Sharir* is one of the branches of *Rachana Sharir* that defines a specific bodily structure. *Paribhasha* literally means terminology. Understanding the basic terminologies and their central idea is the first step in learning a particular science. Although there is no change in human body organs, but there are many differences in basic terminologies of all sciences.

The *Sharir sthan* of Sushrut samhita deals with basic terminologies and concepts regarding *Sharir* (Body). A fully developed fetus with all its parts, such as the hands, feet, tongue, nose, ears, buttocks etc. and the sense-organs is called *Sharir* or body[1]. The body is composed of six main parts, namely- the four extremities (upper and lower), the trunk or middle body, and the head[2]. The different body parts are termed as *Pratyanga* and *Sushruta* in the *Sharir Samkhyavyakran Shaarir Aadhyay* has described various *Pratyanga* like- *Kandara, Jala, Kurcha, Rajju, Sevani*, *Sanghat*, *Simant, Sira, Srotas* etc.

In Auyrveda literature there are varied opinions regarding these structures that has lead to confusion. Acharya Punarvasu Atreya has also proclaimed that a single existing word gives en number of interpretations and those very synonymic words depict a single sense[3]. For e.g. 1) There are similarities in definitions of *Asthi-Sandhi* and *Asthi – Sanghat* as both structures are related with two or more *Asthi* joining together; yet they are named differently, 2) At some places in the texts certain words are used as synonyms e.g. *Sira, Dhamani* and *Srotas*[4]; but at other

places they are described as completely different structures. Hence, like the terminologies of Modern Anatomy are widely accepted universally; on the contrary there are various controversies regarding the *Paribhashas* of *Ayurved Rachana sharir*. Ambiguous terms often conceal the better understanding of the subject to the students and prove an obstacle in the way of globalization of the subject. The present article is thus a humble attempt to compile these controversies and rule out a possible conclusion of the above stated body structures correlated with its modern counterpart and its clinical application.

MATERIAL AND METHODS

The current research article is a literary review. Classical texts of Ayurveda, *Rachana Sharir, Parishadya Shabdartha Shariram* and various Sanskrit dictionaries were referred, studied and data was compiled. Also modern textbooks of Anatomy were referred to rule out a possible structural correlation. Along with it various research articles and current findings on the respective research title were thoroughly studied to put forth the followings results.

RESULTS AND DISCUSSIONS

Paribhasha of the following structures is enlisted below along with the different opinions of various Acharyas. Also it's most possible modern structural correlation and the clinical application of its knowledge is stated as under.

1) *Kurcha*

Haranchandra in his commentary states that *Kurchas* are derived from the *Sannipat* of *Snayu* and *Dhamani*[5]. *Sannipat* here means intersection. Their total number is 6. These are fibrous or membranous brush like structures[6]. Location according to Sushruta[7] is as follows – In *Hasta* (hands) and *Pada* (Feet)– 2 each and in *Griva* (neck) and *Medhra* (penis) there is 1 *Kurcha* each. Following brush like structures in body can be compared with *Kurchas*-

1. In *Hasta* (hands)– Palmar aponeurosis
2. In *Pada* (feet)– Plantar aponeurosis
3. In *Griva* (neck)– Nuchal ligament
4. In *Medhra* (penis)– Suspensory ligament of penis [8]

2) *Kandara*

Sushruta has defined *Kandara* as *Vritta* (round) *Snayu* whereas Bhavaprakash has defined them as *Mahatya* (long) *Snayu*[9]. Sharangdhara has stated that these assist in contraction and relaxation. There total number is same in various texts i.e., 16. There are 4 *Kandara* each in *Pada* (leg), *Hasta* (hand), *Griva* (neck) and *Medhra* (penis). *Kandara* structurally resembles long tendons of muscles. Thus they can be considered as following structures in modern -

1. *Kandara* of *Hasta* (hands) can be considered as flexor and extensor tendons present in the forearm[10].
2. *Kandara* of *Pada* (legs) can be considered tendon of tibialis anterior muscle and tendo calcaneum[11].
3. *Kandaras* in *Griva* can be considered as tendons of sternocleidomastoid muscle or diagastric muscle [12].
4. *Kandaras* in *Prushtha* (back) can be considered as tendons of erector spinae, longissimus and iliocostalis tendons on both sides of vertebral column [13].

3) *Jala*

The *Jala* or plexuses are of four kinds, such as the *Mansa Jala* (muscular plexuses), the *Sira jala* (vascular plexuses), *Snayu* jala (ligamentous plexuses), *Asthi jala* (bony plexuses). One each of the four kinds of plexuses is found at each of the *Manibandda* (wrists) and *Gulfa* (ankles). These four kinds of plexuses intermingle and cross each other in the form of a network. The whole body is a chain-work of plexuses[14].

1. *Mansa Jala* can be considered as the network of tendons of digital muscles.
2. *Sira jala* can be considered as palmar and plantar arches of blood vessels.
3. *Snayu jala* can be considered as retinaculum.
4. *Asthi jala* can be considered as juncture of carpel and tarsal bones respectively.

4) *Sanghata*

The *Asthi sanghata* is aggregation of a number of bones together. They are 14 in number– viz; 2 each in the *Gulfa* (ankle), *Janu* (knee), *Vankshan* (hip), *Manibandh* (wrist), Kurpar (elbow), *Ansa* (shoulder) and 1 each in the *Trika* (Sacral region) and *Shira* (whole skull). "*Trika*" generally means the sacral region, but Dalhana says that here it refers to the meeting of the two clavicles with the breast bone[15]. The description of *Sanghata* is thus similar to *Sandhis* which means joints of 2 or more *Asthi* that are held in a position by *Sandhi bandhas*. However these *Sandhi bandhas* are excluded in *Sanghatas.*

5) *Simanta*

Simant are the structures that connect *Asthi* in *Asthisanghat*. There are 14 *Simanta* according to Sushruta situated at the place of each of the aforesaid *Asthi-sanghata*. But Ashtanga Samgraha states that they are 18 in number. This controversy in numbers is due to counting of 5 skull sutures under the term *Simanta* in Ashtanga Samgraha[16]. Sushruta described 5 *Simant marmas* (vital points) in *Shira*, but he counted skull sutures into *Sivani* due to its surgical importance, and counted all bones in skull as one *Asthi - sanghat*.

6) *Sivani*

These are suture like and are seven in number present at the following locations.- 5 in the *Shira* (skull), 1 respectively in the *Jivha* (tongue) and *Shefa* (male external genitalia). The five sutures in the skull can be considered as sagittal, coronal, lambdoid and two parital sutures respectively. Acharya Indu in his commentary has stated that these sutures in the skull are not visible externally. That in the *Jivha* can be considered as frenulum linguae below the tongue and in the *Shefa* as raphe of scrotum and anococcygeal raphe[17]. Thus *Sivani* in the *Shira* (skull) according to Ashtang *Samgraha* are sutures in skull and are included in *Simant* but Sushruta has counted these sutures in *Sivani* probably due to its surgical importance.

7) *Rajju*

These are four great muscular cords which originate from either side of the spinal column, one pair going inwards and another outwards for the purpose of binding the muscles and vertebral column together. They are 4 in number. These can be considered as longissimus spinalis and iliocostalis muscles respectively[18].

8) *Sira, Dhamani, Srotas*

1. Charaka states that *Dhamanis* (arteries) are (called so) due to pulsation, *Srotas* (channels) due to flowing and *Siras* (veins) due to moving swiftly[19]. However, further in the *Vimansthan* he also states that *Sira, Dhamani* and *Srotas* are synonyms.
2. Also according to the first theory proposed by *Sushruta; Dhamani* and *Srotas* are *Siravikara,* wherein further he contradicts to this statement saying, that all these three structures are completely different, to explain which he gave four reasons viz; *Lakshanbhinnata, Mulasankhya bhinnata, Karma bhinnat* and *Shastradhara* [20].
3. Controversy of the term *Dhamani* is, whether to consider it artery or a nerve. Also Charak state that these *Dhamanis* originate from the heart and they are 10 in number. Whereas Sushruta states that *Sira* and *Damani* origin from the *Nabhi. Dhamani* transmits *Rasa* and *Rakta* and are 24 in number. Controversy arises due to the function of *Dhamani* stated by Acharya Sushruta since it resembles more to that of a nerve[21].
4. There are various controversies in the *Srotas* and the description of *Srotomoola* as well.

Table 1: *Srotas* and their *Srotomoola* according to Charak and Sushruta

Srotas	*Srotomoola* According to Charaka	*Srotomoola* According to Sushruta
Pranavaha	*Hridaya* and *Mahasrotas*	*Hridaya* and *Rasavahidhamani*
Annavaha	*Amashaya* and *Vamaparshwa*	*Amashaya* and *Annavahi Dhamani*
Medovaha	*Vrikka* and *Vapavahana*	*Kati* and *Vrikka*
Shukravaha	*Vrishana* and *Shepha*	*Stana* and *Vrishana*
Mutravaha	*Basti and Vankshana*	*Basti* and *Medhra*

5. Acharya Charaka primarily stated that there are 14 *Srotas* in the human body wherein further he also elaborates that number of matter in the human body equals the number of *Srotas* thus they being infinite; where on the other hand Shushruta stated 11 pairs of *Srotas*. Also Charaka explained *Aartavvaha Srotas* whereas Sushruta skipped *Asthi*, *Majja* and *Swedovaha Srotas*. All the above differences in the opinions can be because Charaka depicts a physician's ideology whereas Sushruta a surgeons.

However to sum up in general, *Sira* is a structure through which passive flow of blood of fluid takes place and thus it resembles a vein. *Dhamani* is the one with pulsations and thus resembles an artery. *Srotas* are minute channel throughout the body and can be considered as capillaries[22]. The probable modern considerations of these *Srotas* according to Dr. B.G. Ghanekar are as under.

Table 2: Srotas and Their Modern Anatomical Considerations

Sr. No.	Srotas	Modern Anatomical Structure
1.	*Rasavaha*	Systemic Capillaries
2.	*Raktavaha*	Portal Capillaries
3.	*Mamsavaha*	Muscular Capillaries
4.	*Pranavaha*	Bilateral lungs and Pulmonary Capillaries
5.	*Udakavaha*	Lymphatics (thoracic duct and right lymphatic duct)
6.	*Shukravaha*	Ductus deferens and ductuli efferentes and rete testis
7.	*Artavavaha*	Blood vessels and capillaries of Uterus and Fallopian tubes
8.	*Purishavava*	Caecum and large intestine
9.	*Mutravaha*	Renal tubules and kidneys with ureters
10.	*Annavaha*	Oesophagus and duodenum
11.	*Medovaha*	Capillaries of perinephric tissues and omentum.

Despite of Sushruta concluding *Sira*, *Dhamani, Srotas* as three different structures; at few places in the texts still these words are used interchangeably.

Applied Aspects of *Paribhasha Sharir*

A physician or a surgeon desiring to have the exact knowledge of the human body should thoroughly examine all parts of the body, may it be cadaveric or the living. Practical knowledge accompanied with theory serves as a masterpiece and so is the importance of *Paribhasha Sharir.*

- Anatomical considerations of vein and their subdivisions according to region have been peculiarly described by Sushruta. This serves as guidance for *Raktamokshana* by *Siravedhan*. It is important to identify a vein and mainly that vein which is contraindicated for vene-puncture (*Avedhya siras*). Any injury to these veins can be life taking and thus shall be preserved cautiously.
- Similarly *Dhamani* is termed as '*Jeevasakshini*' by Sharangdhara, the pulsations in which if ceased - the heart is said to be functionally terminated causing death. These *Dhamanis* are *Panchabhautik* and play a major role in *Nadi Vignyan* and *Panchabhautik Chikitsa*. A detailed account of the state of the dominant *Doshas* in the body and *Prakriti* can be significantly assessed by *Dhamani*.
- The conceptual study of *Srotas* is an exceptional element of the Ayurved system of *Rog Nidan* and *Chikitsa. Srotas* are channel of circulation at a cellular level. On one hand where Charaka has described the concept of *Moolasthana* of *Srotas* mainly by physiological point of view, Sushruta on the other highlighted its anatomical perspective. These *Moolasthanas* serve as the functioning site of *Srotas* for its origin, storage, transformation and conduction of the respective *Dhatu* to the respective target organ. In an era of abuse of antibiotics and adverse drug reactions in chronic as well as acute conditions as in case of *Aamavata*, *Raktapitta, Twacha Vikara*, *Prameha* – getting a clear picture of the exact *Srotodushti* helps in the prompt management of these diseases.
- The knowledge of *Peshi* and its types in the Ayurvedic texts do correlate with that of modern Myology. Though the information regarding specific muscles its origin and insertions is not clearly stated in the Ayurved texts yet the application of this can be considered important in *Snehan* (external oileation) *Karma* which is the *Purvakarma* of *Panchakarma*, which soothes the body externally and has immense results in stress relaxation.
- The unique concepts of *Jala* in Ayurveda and its location in the bilateral wrist and the ankle joint, makes it functionally and anatomically a much stable and a potent structure by virtue of its 5 subtypes viz., *Mamsa jala* (muscles), *Sira jala* (arteries/veins), *Snayu jala* (ligaments and tendons) and *Asthi jala* (bones). *Jala* balances the much needed skilful movements with the desirable stability. The *Sivani* are structures that should be crucially protected at the time of surgery, injury to which can cause extreme blood loss. So are the concepts of *Jala, Sanghat* and *Simanta*, the application of which serves in the field of Osteology and Orthopedics.

CONCLUSION

To sum up with, in Ayurveda there are various controversies due to differences in perspectives. Despite of them, from the above results and discussions it can be concluded that, though there are differences in terminologies of a particular structure, yet their core concept is similar. And hence the knowledge of *Paribhasha Sharir* has stayed eternal since ages. However to enhance its acceptability and feasibility by the future generations, it is the need of the era to rationalize, concise and precise this knowledge in reference to the Ayurved texts with the most likely correlation supported by practical observation in living or cadaveric bodies.

REFERENCES

1. Ghanekar B.G., Sushruta Samhita, Sharir sthanam-5/2, Meharchand Lachhmandas Publications, January 2017, pg. 147
2. Ibid
3. Yadavji T.A. Editor, Reprinted. Charaka Samhita with the Ayurved Deepika Commentary By Chakrapanidatta, Vimansthan-5/9, Chaukhamba Surabharti Prakashana, Varanasi 2009,pg 331.
4. Ibdi, pg 249.
5. Ghanekar B.G., Sushruta Samhita, Sharir sthanam-5/12, Meharchand Lachhmandas Publications, January 2017, pg. 154.
6. Gaod D., Parishadyam Shabdyarth Shariram, Chapter- Sharir Shabda Samgraha, Shree Baidyanath Ayurveda Bhavan Limited 1979, pg. 14.
7. Sharma A. Editor. Sushrut Samhita - Vol. 2, Sharirsthana- 9/5, Chaukhamba Surbharati Prakashan, Varanasi, 2013, pg. 119.
8. Gaod D., Parishadyam Shabdyarth Shariram, Chapter- Sharir Shabda Samgraha, Shree Baidyanath Ayurveda Bhavan Limited 1979, pg. 14
9. Ghanekar B.G., Sushruta Samhita, Sharir sthanam-5/10, Meharchand Lachhmandas Publications, January 2017, pg. 153
10. Chaurasia B.D., Human Amatomy Vol.1, 7th Edition, Chapter 9, CBS Publishers & Distributers Pvt Ltd, pg. 106-107
11. Chaurasia B.D., Human Amatomy Vol.2, 7th Edition, Chapter 9, CBS Publishers & Distributers Pvt Ltd, pg. 102,117
12. Chaurasia B.D., Human Amatomy Vol.3, 7th Edition, Chapter 3, CBS Publishers & Distributers Pvt Ltd, pg. 85
13. Chaurasia B.D., Human Amatomy Vol.2, 7th Edition, Chapter 5, CBS Publishers & Distributers Pvt Ltd, pg. 77
14. Bhishagratna K.L. Editor. An English Translation of Sushruta Samhita, Sharirsthan - 5/11, Published By The Author Calcutta, 1911, pg.162
15. Bhishagratna K.L. Editor. An English Translation of Sushruta Samhita, Sharirsthan - 5/16, Published By The Author Calcutta, 1911, pg.163
16. Murthy K.R., Astanga Samgraha-Vol. 2, Sharirsthan - 5/39, Choukhamba Orientalia, 3rd edition, pg 68.
17. Ghanekar B.G., Sushruta Samhita, Sharir sthanam-5/14, Meharchand Lachhmandas Publications, January 2017, pg. 154.
18. Ghanekar B.G., Sushruta Samhita, Sharir-sthanam-5/13, Meharchand Lachhmandas Publications, January 2017, pg. 154.
19. Ibid
20. Sharma A. Editor. Sushrut Samhita - Vol. 2, Sharirsthana- 9/3, Chaukhamba Surbharati Prakashan, Varanasi, 2013, pg. 118.
21. Sharma P.V. Editor. Charak Samhita - Vol. 1, Sutrasthana- 30/12, Chaukhamba Orientalia Varanasi, 2014, pg. 237.
22. Gaod D., Parishadyam Shabdyarth Shariram, Shree Baidyanath Ayurveda Bhavan Limited 1979, pg. 149.

Cite this article as:
Chavan Shravani Prakash, Sharma Gopal B. A Review on Controversies and Clinical Aspects of Paribhasha Sharir. AYUSHDHARA, 2020;7(Suppl 1):89-93.
Source of support: Nil, Conflict of interest: None Declared