



CONTROVERSIES AND CLINICAL ASPECTS OF PARIBHASHA SHARIR: A REVIEW

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ABSTRACT:

Sharir Rachana, a branch of Ayurveda, examines the human organism from its smallest components to its organized structure. Around 2000 years ago, *Acharya Sushruta* conducted the first thorough cadaver study of human anatomy, laying the foundation for *Sharir Rachana Vigyan* in his *Samhita*. Ancient scholars gained insights into human body structures through cadaver investigations, leading to a complex nomenclature for body parts, compiled as *Paribhasha Sharir*. This knowledge is crucial in surgery and medicine, but disputes and uncertainties arose due to limited social and technological progress in the past. Modern advances have resolved these issues while preserving the original texts and meanings. This paper serves as a basis for reviewing debates and practical applications of *Paribhasha Sharir* in *Rachana Sharir Vigyan*.

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

INTRODUCTION:

The Ayurvedic discipline of *Rachana Sharir* focuses on the embryological and structural organization of the human body. One of its branches, known as *Paribhasha Sharir*, deals with specific physiological structures and their terminology. Understanding fundamental terminology is a crucial step in mastering any subject. The *Sushrut Samhita's Sharir Sthana* elaborates on essential terms and concepts related to the human body, defining "*Sharir*" as a fully formed foetus with all its components, including extremities, trunk, and head^[1]. The four upper and lower extremities, the trunk or centre body, and the head make up the six primary parts of the body. The text characterizes various body parts as *Pratyanga*, leading to some conflicting interpretations in Ayurvedic literature.

These conflicts arise due to differences in terminology and meanings, even when words are synonymous [2]. For example, structures like *Asthi-Sandhi* and *Asthi-Sanghat*, which relate to connecting bone elements, have different names but similar definitions. Additionally, words like *Sira*, *Dhamani*, and *Srotas* [3], are sometimes used interchangeably or described as distinct structures. These ambiguities in terminology have hindered a deeper understanding of *Ayurvedic Rachana Sharir* and its internationalization. This article aims to address these disagreements and establish connections between the mentioned bodily components and their modern counterparts and therapeutic applications.

MATERIAL AND METHODS:

The current study paper is a review of the literature. Various Sanskrit dictionaries, *Rachana Sharir*, *Parishadya Shabdārtha Shariram*, and classical Ayurvedic books were examined and consulted, and data was produced. In order to rule out any potential structural associations, contemporary anatomy textbooks were also consulted. Along with it, several research publications and recent findings on the relevant research topic were carefully examined to produce the results that are shown below.

RESULTS AND DISCUSSIONS:

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

Kandara:

Kandara can be categorized differently: *Bhavaprakash* as "*Mahatya*" *Snayu* and *Sushruta* as "*Vritta*" (round) *Snayu*. These, according to *Sharangdhara*, help in contraction and relaxation. All texts agree on 16 *Kandara*, with four in each of the four regions: *Pada* (leg), *Hasta* (hand), *Griva* (neck), and *Medhra* (penis). *Kandara* resembles lengthy muscular tendons and correspond to modern structures:[4]

1. *Hasta's* flexor and extensor tendons.[5]
2. *Pada's* tibialis anterior and tendo-calcaneum tendons [6].
3. *Griva's* tendons of the sternocleidomastoid or digastric muscles [7].
4. *Prushtha's* erector spinae, longissimus, and iliocostalis tendons [8].

Jala:

There are four different types of *Jala*, or plexuses: *Mansa Jala*, *Sira Jala*, *Snayu Jala*, and *Asthi Jala*, which refer to vascular, skeletal, ligamentous, and bone plexuses, respectively. *Manibandha* and *Gulfa* each have all four plexus types. These plexuses form an intricate network within the body.

1. *Mansa Jala* consists of tendons in the digital muscles.
2. *Sira Jala* resembles the palmar and plantar blood vessel arches.
3. *Snayu Jala* can be related to the retinaculum.
4. *Asthi Jala* is the intersection of tarsal and carpal bones.

Kurcha:

Kurchas are traced back to the *Sannipat* of *Snayu* and *Dhamani*, signifying a junction [5]. There are six *Kurchas* in total, composed of fibrous membranes. According to Sushruta [7], the location is as follows: There are two *Kurchas* in each of the *Hasta* (hands) and *Pada* (feet), and one *Kurcha* in each of the *Griva* (neck) and *Medhra* (penis). *Kurchas* can be related to the bodily structures that resemble the following brushes:

1. Palmar aponeurosis in the *Hasta* (hands).
2. Plantar aponeurosis in the feet.
3. The nuchal ligament in the neck.
4. The suspensory ligament of the penis in the penis.

Rajju:

Four large muscular cords, two on each side of the spinal column, link the vertebral column to muscles. They correspond to the iliocostalis and longissimus spinalis muscles.

Sevani:

Seven suture-like structures exist: five in the cranium (sagittal, coronal, lambdoid, and two parietal sutures), one in the mouth (frenulum linguae), and one in the male external genitalia (raphe of the scrotum and anococcygeal raphe). These cranial sutures are hidden, while in the mouth and genitalia, they correspond to the frenulum linguae, and the raphe. *Acharya Indu* notes this. *Sevanis* in the cranium are considered sutures according to *Ashtang Samgraha*, included in *Simant*, though Sushruta categorizes them in *Sevani* due to their surgical importance.

Sanghata:

Asthi Sanghata involves multiple bones, totalling 14. Each ankle, knee, hip, wrist, elbow, shoulder, sacral region, and the entire head possesses two. "*Trika*" here signifies where clavicles meet the breast bone, per *Dalhana*. *Sanghata* is akin to *Sandhis*, joints involving multiple bones held by *Sandhi bandhas*, but it lacks these *bandhas*.

Simanta:

Simant structures connect *Asthi* in *Asthisanghat*. Sushruta cites 14 *Simanta* at each *Asthi-sanghata* location. *Ashtanga Samgraha* claims 18 due to counting five skull sutures as *Simanta*. Sushruta treats the skull bones collectively as one *Asthi-Sanghat* but identifies five *Simant Marmas* in the head due to their surgical importance.

Sira, Dhamani and Srotas:

1. *Charaka* associates arteries with pulsation, channels with flow, and veins with rapid movement. However, he later considers *Sira, Dhamani, and Srotas* as synonymous.
2. *Sushruta's* theory initially links *Dhamani* and *Srotas* as *Siravikara*, but he later argues that they are distinct, citing four arguments: *Lakshanbhinnata, Mulasankhya Bhinnata, Karma Bhinnat, and Shastradhara*.
3. The classification of *Dhamani* as an artery or a nerve is debated. *Charaka* mentions 10 *Dhamanis* originating from the heart.
4. In contrast, *Sushruta* contends that *Sira* and *Dhamani* stem from the *Nabhi*, with 24 *Dhamani* transmitting *Rasa* and *Rakta*. The *Dhamani's* function resembles that of a nerve ^[10].
5. Disagreements exist regarding *Srotas* and *Srotomoola* descriptions.
6. *Sushruta* mentions 11 pairs of *Srotas*, while *Charaka* states 14 *Srotas* in the body. *Charaka* also relates the number of *Srotas* to the body's matter. The differences stem from *Sushruta's* surgical perspective and *Charaka's* medical philosophy.

Sira permits passive fluid or blood flow like a vein, *Dhamani* pulses like an artery, and *Srotas* resemble tiny channels, akin to capillaries. According to Dr. B.G. Ghanekar, these *Srotas* may be considered in current times in the following ways:

Table. 01

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

Despite *Sushruta* finding that *Sira*, *Dhamani*, and *Srotas* are three distinct structures, these terms are nevertheless employed synonymously in a few places in the literature.

APPLIED ASPECTS OF *PARIBHASHA SHARIR*:

A thorough understanding of the human body, both in cadaveric and living forms, is essential for doctors and surgeons. Combining theoretical and practical knowledge creates a valuable masterpiece, exemplifying the importance of *Paribhasha Sharir*.

1. *Sushruta's* unusual anatomical description divides veins by location, guiding *Raktamokshana* via *Siravedhan*. Recognizing veins, especially those unsuitable for venepuncture (*Avedhya siras*), is critical. Damaging these veins could be fatal.
2. Similar to *Dhamani*, *Sharangdhara* refers to it as "*Jeevasakshini*," the pulsations of which, if stopped, are supposed to effectively end the heart, resulting in death. The *Nadi Vignyan* and *Panchabhautik Chikitsa* heavily depend on these *Panchabhautik Dhamanis*. *Dhamani* can provide a major assessment of the status of the prevailing *Doshas* in the body and *Prakriti*.
3. In Ayurveda, *Srotas* are vital channels for circulation, studied uniquely by the *Rog Nidan* and *Chikitsa* schools. *Sushruta* emphasizes *Srotas'* anatomy, while *Charaka* focuses on physiology. *Moolasthanas* serve as *Srotas'* origin, storage, transformation, and conduction points for *Dhatu*. Understanding *Srotodushti* is crucial for managing diseases efficiently, especially in the era of antibiotic misuse and adverse drug reactions in conditions like *Aamavata*, *Raktapitta*, *Twacha Vikara*, and *Prameha*.
4. Although Ayurvedic texts do not explicitly describe the origin and insertions of particular muscles, their descriptions of *Peshi* and its varieties correspond to those of contemporary myology. The application of *Peshi* in *Snehan* (external oleation) *Karma*, the *Purvakarma* of *Panchakarma*, which externally calms the body and has significant effects on stress reduction, can be considered important.
5. The five subtypes of *Jala*—*Mamsa Jala* (muscles), *Sira Jala* (arteries and veins), *Snayu Jala* (ligaments and tendons), and *Asthi Jala* (bones)—make it anatomically and functionally a much more stable and potent structure. This is due to the unique concepts of *Jala* in Ayurveda and its location in the bilateral wrist and ankle joint. *Jala* strikes a compromise between the desired stability and the urgently needed dexterity. At the time of surgery, the *Sevani* are important structures that must be carefully safeguarded since damage to them might result in significant blood loss. The same can be said about the ideas of *Jala*, *Sanghat*, and *Simanta*, whose applications are used in osteology and orthopaedics.

CONCLUSION:

As a result of divergent viewpoints, there are several debates in Ayurveda. Despite these, it can be inferred from the results and discussions above that, even when a given structure's terminology varies, their fundamental concepts are the same. As a result, *Paribhasha Sharir's* wisdom has persisted over the years. However, it is necessary for the age to rationalise, succinct, and exact this information in reference to the Ayurvedic texts with the most plausible association backed by practical observation in live or cadaveric bodies in order to increase its acceptance and practicality by future generations.

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