

CONCEPTUAL INTERPRETATION OF SIRA, DHAMANI AND SROTAS AS A SYNONYM

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Abstract

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Ayurveda is a science based on a range of Samhitas. In the various Ayurvedic literatures, Acharyas explain the Rachana Sharir (Anatomy) of human beings and they described many structures which have both structural as well as clinical importance. But due to different visions of various Acharyas, some controversies have been created in the present era. Because of these controversies we are unable to properly understand as well as explain to those anatomical structures. Among those controversial parts Sira, Dhamani and Srotas are one of the most important aspects which should be disclosed properly. Ayurvedic texts have brief descriptions of anatomical structures. Sira, Dhamani and Srotas are considered as structures which are generally related to transportation. But in Charaka samhita, Sira and Dhamani are considered as a synonym of Srotas(1). Hence some confusion may be created for researchers. This paper is an attempt to dispel the concept regarding Sira, Dhamani and Srotas.

Introduction

Ayurveda says that “*Dosha Dhatu Mala Moolam hi Shariram*”⁽²⁾ i.e. human body is the constitution of *Dosha* (Bioelements), *Dhatu* (Basic tissue) and *Mala* (Excretal products). When these three constituents are in equilibrium then the body will be in a healthy state, but disequilibrium will cause destruction of *Sharir* (Body). *Sira* carries various *Dosha*, *Dhamani* carries *Shabda*, *Sparsha*, *Rupa*, *Rasa*, *Gandha* etc, while *Srotas* carries *Dhatu*, *Mala*, *Prana*, *Udaka* and *Anna*. Acharya Charaka said that “*Dhamanyat Dhamanyah, Sravanat Srotamsi, Sarnat Sira*”⁽³⁾ i.e. *Dhamani* have properties of pulsation, *Srotas* are structures through which *Sravanam* (oozing) takes place, and *Sira* is related to *Saran kriya* (very slow flow of blood). Charaka said that “*Yavantah Purushe Murtimanto Bhavavisheshah Tavantevasmin Strotsam Prakara Visheshah*”⁽⁴⁾. It means *Srotas* is a multi meaning term referring to a range of structure, function and concepts in different texts.

Aims & objectives:

- To understand the concept of *Sira*, *Dhamani* and *Srotas* according to *Ayurveda*.
- To disclose the controversies between *Sira*, *Dhamani* and *Srotas*.

Materials & Methods

- Classical text of *Ayurveda* – *Charaka samhita*, *Sushruta Samhita*.
- Various Research Articles (Related to the topic).

Review of Literature

Sira

Acharyas have used an anatomical term *Sira*, which is one of the controversial structures. It is used to represent tubular structure, to carry *Vata*, *Pitta*, *Kapha* and *Rakta*. It is one of the synonyms of *Srotas* according to *Charaka*.

Origin

According to *Sushruta*, *Sira* originate in the embryonic life from *Nabhi* (umbilicus) and they spread upward, downward and in oblique manner from *Nabhi*. *Sushruta* said that “*Nabhimoolam*”. Because either they start or end in *Nabhi* in uterine life.

Types and no. of Sira

1.	<i>Vatavaha Sira</i>	10
2.	<i>Pittavaha Sira</i>	10
3.	<i>Kaphavaha Sira</i>	10
4.	<i>Raktavaha Sira</i>	10

These 40 *moola Siras* are further divided into 175 *Siras*. Thus total no. all *Siras* found 700.

Dhamani

Acharyas has used an anatomical term *Dhamani*, which is a controversial term (structure) used to represent tubular structure, to carry *Shabda*, *Sparsha*, *Rupa*, *Rasa* and *Gandha*, *Mala*, *Mutra*, *Shukra* etc. And it is also used as a synonym of *Srotas*. According to *Charaka* '*Dhamanadhamanyah*' hence *Dhamani* is that tract which produces rhythmic sound.

Origin

Charaka has also mentioned in *sutrasthan* that, *Dhamanis* arise from the *Hridaya*. But *Sushruta* said that *Dhamani* originated from *Nabhi* (Umbilicus). They termed that “*Nabhiprabhava*”⁽⁵⁾.

Types and no. of Dhamani

Charak = 200

Sushruta = 24

1.	<i>Urdhwaga Dhamani (Directed upward)</i>	10
2.	<i>Adhoga Dhamani (Directed downward)</i>	10
3.	<i>Tiryaka Dhamani (Directed obliquely)</i>	04

Srotas

The *Srotas* is defined as channels of circulation of nutrients for *Dhatu* in the human body. *Srotas* are the channels or hollow spaces present throughout the body.

Synonyms

Charaka said that the term ‘*Srotas*’ carries a very wide range of meaning. *Sira* (vein), *Dhamani* (artery), *Rasayani* (lymphatic channel), *Nadi* (duct), *Panthaan* (passage), *Marga* (track), *Sharir Chidra* (spaces inside body), *Samvruta-Asamvruta* (closed at tip and dilated at the root), *Sthaan* (balanced position), *Ashaya* (location/reservoir), *Niketa* etc. are the names of visible and invisible spaces within the body.

Types of Srotas

Charaka mentioned 13 main *Srotas* in *Vimansthana* but *Sushruta* has described 22 or 11 pairs of *Srotas* and called them ‘*Yogavahi*’.

S.N.	Srotas	Moola sthana	
		Charaka	Sushruta
1.	<i>Pranavaha</i>	<i>Hridaya, MahaSrotas</i>	<i>Hridaya, RasavahiDhamani</i>
2.	<i>Anna vaha</i>	<i>Amashaya, Vamaparshwa</i>	<i>Amashaya, AnnavahiDhamani</i>
3.	<i>Udakavaha</i>	<i>Talu, Kloma</i>	<i>Talu, Kloma</i>
4.	<i>Rasa vaha</i>	<i>Hridaya, DashaDhamani</i>	<i>Hridaya, RasavahiDhamani</i>
5.	<i>Raktavaha</i>	<i>Yakrut, Pleeha</i>	<i>Yakrut, Pleeha</i>
6.	<i>Mamsavaha</i>	<i>Snayu, Twak</i>	<i>Snayu, Twak, RaktavahiDhamani</i>

7.	<i>Medavaha</i>	<i>Vrukka, Vapavahan</i>	<i>Kati, Vrukka</i>
8.	<i>Asthivaha</i>	<i>Medas, Jaghan</i>	<i>Not mention</i>
9.	<i>Majjavaha</i>	<i>Asthi, Sandhi</i>	<i>Not mention</i>
10.	<i>Shukravaha</i>	<i>Vrushana, Shefas</i>	<i>Stana, Vrushana</i>
11.	<i>Mutravaha</i>	<i>Basti, Vanskhana</i>	<i>Basti, medhra</i>
12.	<i>Purishavaha</i>	<i>Pakwashaya, Sthoolaguda</i>	<i>Pakwashaya, guda</i>
13.	<i>Swedavaha</i>	<i>Meda, Romakupa</i>	<i>Not mention</i>

Comparison between Sira, Dhamani and Srotas

1. Difference between Sira, Dhamani and Srotas

According to *Sushruta*, *Dhamani*, *Sira* and *Srotas* are different structures from each other. They describe some reasons for differentiation among *Sira*, *Dhamani* and *Srotas*. These reasons are as follows:-

- **Vyanjanayatvat** (Differentiation in features):-

The colour of *Sira* can be crimson red, red, blue or white, according to *Dosha*. But there is no such description in *Dhamani* and *Srotas*.

- **Mulasanniyamat** (Point of origin):

As for point of origin, the original number of *Sira* is forty, while *Dhamani* and *Srotas* are twenty four and twenty two respectively.

- **Karmavisesyat** (Functional specificity):-

Sira performs functions such as non impediment of actions etc. Where *Dhamani* carry sensation of sound, vision, taste, smell etc, and *Srotas* carry air, water, food and all seven dhatus and three types of malas.

- **Agam** (Textual authority) :-

In ayurveda these are mentioned separately, if they were one they would not have been mentioned and described separately.

2. Similarities between Sira, Dhamani and Srotas

- **Paraspara sannikarshata** (Close relationship):-

Sira, *Dhamani* and *Srotas* are situated in close proximity in the human body. Arteries and veins along with branches are found in close proximity in the human body.

- **Sadrusyagama** (Inter changeable) :-

Since *Sira*, *Dhamani* and *Srotas* are involved in transport of the nutrients, apparently there is no distinct difference between these structures. *Sira*, *Dhamani* and *Srotas* are composed of akash mahabhuta.

- **Sadrusya karma** (Similarities in functions):-

Transportation of the biological humours and tissue is a common function of *Sira*, *Dhamani* and *Srotas*.

- **Sukshamat** (Minuteness):-

Sira, *Dhamani* and *Srotas*, all are minute. Due to this property differentiation among three is difficult.

Discussion

Sira, *Dhamani* and *Srotas* are structures which are closely related to each other, and the key functions of all these three structures are transportation. According to that point some confusion is created between *Sira*, *Dhamani* and *Srotas*. Here are some points which is helpful for the justification of this confusion-

- After analysis of ayurvedic literature, we find that only *Charaka* said that *Sira* and *Dhamani* are the synonyms of *Srotas*. While *Sushruta* mentioned that the ducts which are coming from any cavity, other than the *Sira*, *Dhamani*, and found to course through the whole body are called *Srotas*⁽⁷⁾.

- The origin points of *Sira* and *Dhamani* according to Charaka are different from each other. While different types of *Srotas* originated from different *moola sthana*. The numbers and types of *Sira*, *Dhamani* and *Srotas* are also different and unequal.
- All three structures have prominent *Akash mahabhuta (kha)* i.e. these all are hollow, spacious, and related to the function of transportation. In which *Sira* carry the *vata*, *pitta*, *kapha* and *rakta dosha*, *Dhamani* carries *shabda*, *sparsha*, *rupa*, *rasa* and *gandha* etc, while *Srotas* carries *dhatu*, *mala*, *prana*, *anna* and *udaka*. Thus on the basis of transportation material *Sira*, *Dhamani* and *Srotas* are different.
- *Sira Granthi* is a type of *Sroto Dushti* which is described by *Charaka*. It means *Sira* and *Srotas* are different structures.
- *Dash Dhamani* originated from heart and is considered as a *Moola sthana* of *Rasavaha Srotas* by *Charaka*. This shows the difference between *Dhamani* and *Srotas* also.
- We all know that “*sharire sushruta shrestha*”, i.e. anatomical descriptions provided by *sushruta* are more reliable. *Sushruta* provides description about confusion between *Sira*, *Dhamani* and *Srotas* in the form of similarities and dissimilarities, which is described above in this article. On the basis of those point's *sushruta* said that all three structures are different.

According to some previous works and research articles, *Sira*, *Dhamani* and *Srotas* are considered as vein, artery and capillaries (channels of circulations) respectively.

Conclusion

On the basis of above discussed points it may be concluded that, only *Charaka* mentioned *Sira* and *Dhamani* as a synonym of *Srotas*. But *sushruta* has given clarification on this confusion and some other discussed points we can say that *Sira*, *Dhamani* and *Srotas* all three structures are different from each other. *Sira*, *Dhamani* and *Srotas* all are the medium of transportation in body but the transport materials are different. From reviewing the literature only *Dhamani* is considered under the *moola sthana* of various *Srotas* not *Siras*.

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