

PHYSIOLOGICAL SIGNIFICANCE OF SROTASA

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ABSTRACT

The concept of *Srotasa* is broadly described in *Ayurvedic Samhitas* in both anatomical and physiological aspects. *Srotasa* are channels that convey the body elements which are undergoing metabolic processes that sub-serve the purpose of circulation. The internal transport system of body is represented by *Srotasa* both in healthy and diseased. Hence, any organ cannot be maintained or can't get vitiated without *Srotasa* so there is a need to study the fundamental and applied aspect of *Srotasa* in order to understand *Ayurvedic* biology and disease processes in depth. A complete knowledge of *Srotasa* is must for an *Ayurvedic* physician to approach a patient in a holistic way. The concept of *Srotasa* indicates all macro, micro level description applicable to exchange, transportation and excretion. *Srotasa* mainly controls process of circulation in human body. The *Srotasa* perform many functions in body but when it gets disturbed may convey some pathological manifestation, therefore it is very essential to understand physiological concepts of *Srotasa*. In this article, the physiological significance of *Srotasa* is discussed.

Keywords: *Srotasa*, circulation, transformation

INTRODUCTION

The word *Srotasa* is derived from the Sanskrit root “*Sru-Gatau*” (*Sru + Tasi =Srotas*) which means exude, ooze, filter and permeate, etc¹. Dictionary meaning of *Srotasa* is a current, a stream and a river. *Srotasa* are the channels of circulation (*Murtimantha-bhawwishesha*) which carries the *Dhatus* i.e. tissue elements or their constituents undergoing transformation (*Parinamapadhyamana*) to the destination². The term *Parinamapadhyamana* indicates that the channels carry such of the tissue elements as are undergoing transformation from their previous states; viz. *Rasa* (plasma) to their subsequent states; viz. *Rakta* (blood) etc. The basic site of *Srotasa* with different

functions are fixed depending on the biological material that they are carrying, their openings are innumerable³. The term *Srotasa* includes both *Anu Srotasa* and *Sthula Srotasa*. There existed a concept of minute and numerous individual living units in the body which are imperceptible by sense organs. Nowadays, such microscopic living units are known as cell which can be considered as “*Anu Srotasa*”. Tissue is a group of structurally and functionally similar cells which work together to form an organ system are called as “*Sthula Srotasa*” perceptible by sense organs. The concept of *Srotasa* of both the *Acharyas* has been mentioned differently in their views, *Charaka* broadly considered

the concept of *Srotasa* on functional abnormalities whereas *Sushruta* considered on structural abnormality.⁴

Genesis of Srotasa⁵ – In Intrauterine life *Srototpatti* takes place from *Vayu Mahabhuta* with appropriate Agni, differentiation takes place and creates *Srotasa*.

Synonyms of srotasa⁶ – *Sira, Dhamanyaha, Rasayanaya, Naadya, Panthana, Marga, Aashaya* etc. In most of the texts it has been considered that all above mentioned are as synonyms of the *Srotasa*. But when we consider them as synonyms of *Srotasa* then they should perform the same functions of *Srotasa* but it is not observed like that. The significance of *Srotasa* is in single word i.e. “*Sharirdhatuavkashanam*” means all structures of the body are sites where *Sharir Dhatus* will reside and the functions of the *Srotasa* can't be perform by any other structures, so above all structures are only the *Sharirdhatuavkashanam*⁷.

Types of Srotasa – *Chakrapani* commentator mentioned “*Srotomayam hi Shariram*” that means as human body contains cluster of *Srotasa*. The types of *Srotasa* has been explained by *Acharya Charka* as every *Murtimanta Bhavas* in the body should be considered as the types of srotas⁸. In spite of that the numerous *Srotasa*, *Acharya Charka* has explained 13 number of *Srotasa* and *Acharya Sushruta* has explained 11 number of *Srotasa*.

Physical features of Srotasa– According to *Acharya Charaka*, the colour of *Srotasa* is as same as *Dhatu* and circular in shape, large as well as small in size, large in length and reticular in structure.⁹ According to *Acharya Sushruta*, structure of *Srotasa* except *Sira* and *Dhaminis* all *Srotas* are like a root of lotus flower.

Physiological importance – All body entities which are present in the body possess their own *Srotasa*. At the time of *Charaka Samhita*, knowledge of the internal transport system of the body had reached a high degree of development. The living body is nothing but the resultant of aggregation of innumerable *Srotamsi* that are transporters of factors which causes *Prakopa* (excitation) or *Shamana* (alleviation) of *Sharira-Doshas*. *Srotasa* are energetic channels within the body and are responsible to carry out lots of functions. *Srotasa* are described as little rivers with continuous

flow of *Bhavas* within the body, exploit nourishment and transportation in the body. It is essential to understand the functions of *Srotasa* as per physiological condition. Every *Dhatu* is generated by *Srotasa*.

Nourishment – *Acharya Charaka* says *Srotasa* serves as *Ayanmukhas* to both the *Mala* and *Prasada* part of *Dhatu*. The word *Ayana* means to go or to move, that is, through which movement of materials takes place. The word *Mukha* means to leave or to be free. Also, *Mukha* is used as a synonym of *Nihsarana*, meaning, a structure through which nourish *Sthayi Dhatu*. After biotransformation, body entity is needed to shift from its place of origin to its place of destiny.¹⁰

Sravanam (oozing) – The word *sravana* means flowing, trickling and oozing. Exchange of substance in the body at capillary level is because of *Sravan Karma* of *Srotasa*.

Site of biotransformation – *Acharya Charaka* stated that *Srotasa* carry *Poshyabhavas* (nutrients) which are ready to undergo transformation. In systemic circulation, all the *Poshayabhavas* circulate in the body which are in *Asthayi Dhatu* form, which can be used by all tissue but when those substance enter into the respective tissues they have to undergo many other processes where they will be converted into muscle tissue or fat tissue at their levels.¹¹

Vahanam (transportation) – *Ahararasa* is fluid, which circulates through different channels in entire body. This fluid reaches every *Srotasa* and supplies required nutrients for the purpose of nourishment of each *Dhatu* etc. The *Srotasa* are main tool for transportation of body components.

Absorption- *Srotasa* has property of selective absorption. Nutrients of different *Dhatus* are present in *Ahararasa* while travelling through it. But only concerned *Srotasa's* nutrient gets selectively absorbed there. E.g. in the *Mootra-Nirmiti* process (urine formation), at the site of *Pakvashaya* only *Mootraposhaka* part gets absorbed and *Poshyabhavas* oozes in *Basti* (urinary bladder) where urine is stored.

Excretion – The term *Malakhya Dhatu* is used for waste products or the degraded elements of tissues, which are not meant to be discarded entirely. A part of *Malakhya Dhatu* is utilized for the synthesis of some

structural elements of the body as well as sub-serves some of the vital functions of the organisms while a part is utilized to compose excrements which are periodically thrown out of the body. *Sthayi Dhatus* are seldom without *Malas*. E.g. *Mala* of *Asthi Dhatu* is *Kesha* (hair) and *Shamshru* (beard) are structural elements of the body while sweat is *Mala* of *Medo Dhatu* which is excreted out of the body. *Mutravaha*, *Purishvaha* and *Svedavaha* Srotasa involved in excretion.

DISCUSSION

Srotasa is a processing unit in which function of bio-transformation of previous *Dhatu* into next *Dhatu* takes place. Entire range of life processes in health and disease depends on integrity of the *Srotasa* system. *Srotasa* are the inner transport system of the body which provides platform for activities of other important bio-factors like three *Dosha*, seven *Dhatu*, the *Oja*, the *Agni*, thought and emotions etc. *Srotasa* are not only the passages or channels for flow of various substances but also *Srotasa* are specific in their functions. All the *Dosha*, *Dhatu* and *Mala* represent on *Srotasa* for their formation, transportation and destruction. The internal transport system of the body, represented by *Srotasa*, has been given a place of fundamental importance in *Ayurveda* – both in health and disease. No structure in the body can grow or deteriorate independent of *Srotasa* that transport seven *Dhatus* which are constantly subjected to transformation.

CONCLUSION

Srotasa represent the inner transport system of the body in addition to that of circulatory system. *Srotasa* indicate all macro, micro level descriptions pertaining to exchange, transportation and excretion. *Srotasa* include all range of structural and functional units from gross to subtlest designed to carry specific material, molecules, messages, impulses, emotions, and thoughts. Thus, *Srotovijnana* of *Ayurveda*, on one hand relates to physiological function while on the other hand it relates to the gross pathology and cure.

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Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: Ruchi Gupta et al: Physiological Significance Of Srotasa. International Ayurvedic Medical Journal [online] 2019 {cited January, 2020} Available from: http://www.iamj.in/posts/images/upload/2407_2409.pdf