



RESEARCH ARTICLE

CRITICAL EVALUATION OF SROTAS AND ITS CLINICAL SIGNIFICANCE

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ABSTRACT

The concept of *srotas* has been described vividly and scientifically in *Ayurvedic* literature. It is stated that no corporeal entities could arise or decay without *srotas*. *Srotas* are channels of nourishment having particular functional entity in human body. These channels are structurally related to various organs with due consideration on the basis of physiological needs of our body. It is pre-requisite for the maintenance of good health because without healthy *srotas* body cannot grow normally. Any slight disturbances at the level of *srotas*; either structurally or functionally, leads to *dosha dushya samurchna* and as a result disease manifest inside the body. The special kinds of pain exhibited in cases of *srotodushiti* (pathological involvement of *srotas*) which are important to gain knowledge of prognosis of disease as well as to treat the root cause of the disease.

Key words: Srotas, Dosha, Dushya, Srotodushiti.

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INTRODUCTION

The term *Srotas* is derived from the root *Su sravano* means which exude, ooze, filter or permeate (Agnivesha *et al.*, 2000). These channels function as the medium through which the biological materials, nutrients and excretory material flow. It refers both to the gross channels like respiratory tract, gastrointestinal tract, genitourinary tract etc. and micro channels like vessels, capillaries, lymphatic channels etc. and also to molecular channels like the permeability of membranous pores of cell membrane etc (Dwarakanath, 1996). *Srotas* which is the transport system of the body has many synonyms : *Srotamsi* - channels, *Siras* - veins, *Dhamanis* - arteries, *Rasayanis* - lym-phatics, *Rasavahini* - capillaries, *Nadis* – tubular conduits, *Panthanas* - passages, *Margas* - pathways, *Sharir chidras* - body orifices, *Samvrat samvratani* - open, closed, *Sthanas* - sites, locus, *Ashayas* - repertoires, *Niketas* - resorts . The *Srotas* recognized by surgeons as - having traumatic injuries may be inflicted on them or due to piercing them during surgical manipulations with sharp instruments (Kaviraaj *et al.*, 2010). Movement of *tridosha* i.e. *vata*, *pitta* and *kapha* in entire body is through different *srotas*. Even *manasika guna sattva* and *manasika dosha raja* and *tama*, which are imperceptible by sense organs mostly, use the entire body as a vehicle. Ayurveda has emphasised the role of *Srotas* both in the physiological and pathological state,

therefore study of *Srotovigyana* is essential for understanding the basic systemic & functional anatomy of the body (Agnivesha, 2000).

MATERIALS AND METHODS

Present work has been done based on critical review of classical information, published research works, modern literature and research works conducted at various institutes. The possible correlation has been made between collected information and has been presented in systematic way.

CONCEPTUAL PART

Structure of Srotas: *Srotas* generally takes the color of respective *dhatu* which transport through it. It is in certain extent looks like round, flat and minute according to required structure and functions of body. Looks like various fine and minute channels of the body. Various glandular secretions and transportation takes place through these channels. Apart from *sira* and *dhamani srotamsi* arise from a hollow organ as its *mula* and then spread throughout the body. *Srotamsi* are present everywhere in the body and so man is considered as a conglomeration of *srotas* (Pandit Kashinatha Shastri, 2007).

Classification of Srotas: According to Acharya Charaka *srotas* are *aparisanakhyeya in the body*, but in that he has described 13 *srotas* only. Acharya Vagbhata has also described 13 *abhyantara srotas*. But *Sushruta* has stated 11 pairs of *srotas*. He has not described *asthivaha*, *majjavaha*, *svedavaha*

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srotas described by Charaka, in addition to that mentioned *srotas* (Pandit Kashinatha Shastri, 2007; Srikantha Murphy, 2001).

Three *Srotas* that connect the individual to the external world

- *Pranavaha srotas* - The channels carrying *Prana*(*Vaayu*) i.e.the breath
- *Annavaaha srotas* - The channels transporting food
- *Udakavaha srotas* - The channels transporting water and electrolytes

Seven *Srotas* representing channels to and from the tissues (*dhatu*s)

- *Rasavaha srotas* - The channels carrying plasma and lymph
- *Raktavaha srotas* - The channels carrying blood cells
- *Mamsavaha srotas* - The channels carrying muscles nutrients and wastes
- *Medavaha srotas* - The channels carrying various adipose tissues of the body
- *Asthivaha srotas* - The channels carrying nutrients to bones
- *Majjavaha srotas* - The channels associated with bone marrows
- *Shukravaha srotas* - The channels carrying sperm and ova

Three *Srotas* regulate the elimination of metabolic waste products

- *Purishavaha srotas* - The channels which carry the faeces
- *Mutravaha srotas* - The channels which carry the urine
- *Svedavaha srotas* - The channels which carry perspiration

Two *Srotas* are specific for women

- *Artavahavaha srotas* - The channels which carry the menstrual blood
- *Stanyavaha srotas* - The channels carrying breast milk during lactation

One *Srotas* associated with the mind

- *Manovaha srotas* - The channels which carry various thought processes, emotions, ideas etc (Agnivesha *et al.*, 2000).

Etiological factors for vitiation of *Srotas*

Diets and regimens which are similar to the properties of *Doshas* and opposite to the properties of different *Dhatu*s are responsible for the vitiation of different *Srotas* of respective *Dhatu*s. Improper dietary habits, which aggravates *Vatadi doshas* and person who is not following the rules and regulations of eight folds of dietary principles. Diet and activities which are contrary to *Dhatu*s. For example, day time sleep and fatty foods which aggravates *meda dhatu* and causes vitiation in them in spite of having identical properties. Thus *dhatubhiviguna* refers to the factors which are unwholesome and non conductive to *dhatu*s (Byadgi, 2016).

Characteristics of *Srotodushiti*

The characteristics of the morbidity of the body channels are the increased or decreased flow of their contents, the passages or flow of their contents in abnormal channels.

Atiprvritti

The word *atipravritti* means excessive flow. When the *srotas* gets vitiated due to *dosha*, it leads to pathological changes that cause *atipravritti*. E.g. *Artav vridhi*(excessive production of *artav*), *prameh* (excessive production of urine), rapid emptying of stomach.

Sanga

The term *sanga* means obstruction/retention or holding up. Due to vitiation of *dosha*, *srotas* gets affected. It cannot perform its routine function of *sravanam* i.e.transport. The flow through respected *srotas* gets obstructed and causes various diseased conditions in our body. E.g. In *jwar srotorodh* due to *Ama* and *Rudhhapath Kamala* due to *Kapha*.

Sira-Granthi

It means formation of glandular structure or nodular structure which is not physiological. E.g. *Arsha*, *udara roga* and atherothrombotic plaque

Vimarga Gamana

It means flow of fluid in channels other than its own pathway. E.g.In *shotha vimargagaman* of *udaka* and *rakta dhatu*, In *bahupitta kamala*, *vimargagaman* of *pitta*, *raktapitta* and *udara rog*

CLINICAL SIGNIFICANCE OF *SROTAS*

Inner transport system in our body provide platform for activities of bio factors i.e. *tridosha*, *saptadhatu*, *ojas*, *agni*, emotions etc. *Srotas* serve as path from which both *Prasad* and *Mala dhatu* transport and form *Sthayi dhatu* (Dwarikanath, 1996). At each level of manifestations it entraps space from where production and distribution of its attribute i.e. *Dosha*, *Dhatu*, *updhatu*, *mala* takes place. These are structures where *moortimana bhavas* produce new *bhavas* or destroy the *bhavas* i.e. Anabolism and catabolism. The transport of biological fluid, physiological regulatory factors, nourishment of tissues and their bioavailability all depends upon the integrity of *Srotas*. Each *Srotas* provides nutrition to their respective *dhatu* only with requisite quantity (Swarnakar *et al.*, 2014). The theory of semi-permeability may be well correlated with the *Srotas* because of the property of being permeable to some substances and impermeable to others. All pathological lesions either acute or chronic have their origin in the *Srotas*. *Agnidushiti* or *Agnimandya* of the cells that compose the *Srotas* lead to *Srotovaigunya* or functional disturbance of the *Srotas*, which may be followed by structural change in them, may in turn lead to *Srotorodha* and brings about an interaction between *Dosha* and *Dushya* at the site of defect or arrest. Manifestation of disease occurs in the body as a result of manifestation of these *Srotas* as a site for disease. *Srotas* is a processing unit in which function of biotransformation of previous *dhatu* into next *dhatu* takes place. Manifestation of a disease in the body as a result of the defective *srotas* favours

the *dosha-dushya sammurchhana* and leads to formation of various disorders.

CONCLUSION

The role of *Srotas* in the manifestation of disease has been well discussed in almost all *Ayurvedic* texts; so also its importance in the maintenance of normal physiological functions i.e. the basis of good health. These pathways are spread throughout the human body nourishing all the *Dhatus* at cellular level. A complete knowledge of *Srotas* is a must for an *Ayurvedic* physician to approach in a holistic way. Manifestation of a disease occurs in the body as a result of defective *Srotas* of the body. So, any defect of *Srotas* must be corrected as soon as possible, for the restoration of normal health. Understanding the concept of *Srotas* and *Srotovaigunya* facilitates the physician to take accurate decision with respect to prognosis and treatment.

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