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ROLE OF SROTAS IN DEVELOPMENT OF DISEASES

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Abstract: Srotas are the systems that carry or circulate the doshas and tissues (Dhatu) or their elements to the various organs. During this process of circulation the dhatu are transformed from the first to the last tissue layer (rasa through shukra). Each dhatu has two aspects: nutrition for its own tissue layer, and sustenance for the next developing dhatu. Srotas micro channels are not only responsible for the dispensing of the food to different tissues and cellular systems of the body but also involved in removal of the waste products. Competent srotas is the root cause for the healthy body. Sanshodhana therapy is recommended for removing the existing malas from the body and thereby maintains the healthy status of srotas.

Key words: Srotas, Dhatu, Sanshodhana etc.

Introduction: Srotas or channels are the path or empty spaces (Kha) which allow to free flow or transportation of various types of materials through them^[1]. Term srotas is derived from the root "su sravano" means which exude, ooze, filter or permeate^[2]. Any passage or channel, which carries solids, liquids, gases, nerve impulse, nutrients, waste products and secretions from the glands, is termed as srotas^[3]. They held in the circulation of body fluids as well as body elements. Srotas starts from some space in the body and which secretes or carries fluids^[4]. Srotas have been considered as micro or macro channels on the basis of morphology^[5]. Macro channels having their natural orifices on the surface of the body are two ears, two eyes; two nostrils, mouth, anus and urethra are the nine orifices of the body passage opening externally, females having three more orifices, those of two breasts and the vagina^[6]. Srotas are spreaded throughout the body and in Ayurveda it has been said that group of srotasa is purusha^[7]. All the spaces in body as lymph vessels, blood vessels, and all types of canal or ducts, tubes can be understood as srotasa or channels. Once these empty spaces become abnormal, it brings abnormality in normal dhatus by not transforming to required destination; this is

because of abnormality in srotas. Srotas vitiates other srotas, dhatu vitiates other dhatus, for all these happening disturbed function of agni. That is why life span, health, strength and nourishment etc. depends on agni^[8]. Vitiations of srotas is known as srotaodusthi.

There are two types of srotas

Antarmukhi: According to various Acharya numbers of these are variable. Total these are of sixteen types.

Sixteen Srotas or Channels of Circulation^[9].

- *Prana vaha srotas.* Channels that carry the breath or life force and vitality.
- *Anna vaha srotas.* Channels that carry food (anna or ahara).
- *Ambhu vaha srotas.* Channels that carry water or regulate water metabolism.
- *Rasa vaha srotas.* Channels that carry chyle, lymph or plasma (rasa dhatu).
- *Rakta vaha srotas.* Channels that carry blood.
- *Mamsa vaha srotas.* Channels that supply nutrients to the muscle tissues.
- *Medo vaha srotas.* Channels that supply nutrients or the fat or adipose tissue.
- *Asthi vaha srotas.* Channels that supply nutrients to the bone tissues.
- *Majja vaha srotas.* Channel that supply nutrients to the bone marrow.

- *Shukra vaha srotas*. Channels that carry semen and ovum.
- *Sveda vaha srotas*. Channels that carry sweat.
- *Purisha vaha srotas*. Channels that carry faeces.
- *Mutra vaha srotas*. Channels that carry urine.
- *Artava vaha srotas*. Channels that carry menstrual fluid.
- *Stanya vaha srotas*. Channels that carry breast milk.
- *Mano vaha srotas*. Channels that carry thoughts or the mental system.

Bahirmukhi: These are total 9 in male and 12 in female. There are two ears, two eyes; two nostrils, mouth, anus and urethra in male and three more orifices i.e. two breasts and vagina in females.

Srotodushthi: It can be understood as any abnormality in both either in gross major channels like respiratory tract, GIT etc. or micro channels like vessels, capillaries etc. and also in membranous pores of cell membrane. This abnormality may be either in structure or in function of that srotas.

Causes of Srotodushthi: *Vata*, *pitta* and *kapha* are three *doshas* which are responsible for affection of various body channels. Improper dietetics, erratic behavior or activities related to speech, body (trauma) and mind having qualities similar to one or more *doshas*, but apposite to that of the affected tissues affect the body channels. Thus increased *doshas* and the weakened or vitiated tissues, leads to diseases of various channels [10].

Role of Srotodushthi in Disease Origination: *Acharyas* have described that when there is any abnormalities in srotas due to any reason, vitiated doshas flowing through them get accumulated at the places where abnormality in srotas is.

Srotaodushthi is of 4 Types [11].

1. *Atipravritti* (Improper excessive flow than normal physiology)
2. *Sanga* (Obstruction in free flow through these channels)
3. *Shiranam granthi* (Origin of abnormal growth).
4. *Vimargagamanam* (Leaving its own path and entering into other path).

Atipravritti

- As excessive urination (Polyuria) in diabetes mellitus and diabetes insipidus .
- Excessive watery stool as in *atisara*.
- Excessive mucous secretion as in *coryza infection*, *allergy* etc.
- Excessive perspiration etc.

Sanga (Srotorodha): *Sanga* in the most common and involves almost all channels. *Sanga* is the cause of a lot of diseases. [12] Atherosclerosis is a specific form of arteriosclerosis in which an artery wall thickens as a result of the accumulation of fatty materials such as cholesterol and triglyceride. It is a syndrome affecting arterial blood vessels, a chronic inflammatory response in the walls of arteries, caused largely by the accumulation of macrophages and white blood cells and promoted by low-density lipoproteins without adequate removal of fats and cholesterol. It is commonly referred to as a hardening or furring of the arteries. It is caused by the formation of multiple plaques within the arteries.

Gastrointestinal System: In blockage, the intestine/bowel does not allow food to pass. This may occur due to a twist in the bowel, an intussusception, or the wrong type of food lodging in a spot that has a small passage way due to surgery or adhesions. Adhesions may be considered as *ama*.

Locomotor System: *Ama* is the outcome of improper digestion. Incomplete or partial digestion of food leads to *ama*. Product which brings discomfort in srotas is *ama*. It is a very hazardous substance being macromolecular in size causes obstruction to the channels of head and favors conglomeration of *dosha* and *dushya*. Due to the similarity of its biophysical properties with *slesma*, *ama* rasa trickles to the *slesma sthana* especially joints and accumulates there. *Ama* forms complexes with various *dushyas* and get converted into extremely virulent substance and causes inflammatory changes in *amavata* (Joint disorders).

Lymphatic Obstruction: Lymphatic obstruction is a blockage of the lymph vessels that drain fluid from tissues throughout the body and allow immune cells to travel where they are needed. Lymphatic obstruction may cause lymph edema, which means swelling due to a blockage of the lymph passages. According to *Ayurveda* it may be due to accumulation of *sama rasa*, *sama rakta* and *sama meda* inside blood vessel.

1. Shiranam granthi (Origin of Abnormal Growth): Basically it is also a cause of *sanga* or obstruction. If any growth like tumor, nodules originate inside the srotas also causes obstruction in free flow of its content. Incomplete bowel evacuation due to piles is also an example of it.

2. Vimargagamanam (Leaving its Own Path and Entering into other Path)

- *Chakrapani* has defined as entrance of mala into *mutra marga* etc.
- Bhagandra (fistula) is main cause of above condition.
- Obstuctive jaundice- In which bilirubin does not pass normally with stool and it reaches in blood causes more bilirubin through urine.
- Inflammation- Normally WBCs flow in blood in blood vessels. If any injury or infectious agent enters in body then WBCs run towards at the site of injury leaving its own path.

Materials and Methods: Various *Ayurvedic*, modern literature, text books, articles, and journals are studied for this review work.

Results: It is a type of review article so any result cannot be drawn.

Discussion

The specific varieties of channels of circulation in the human body are the same in number as the structural entities in it. All the structural entities in human body cease either to maintain the continuity of their manifestation or to undergo diminution in the absence of respective channels of circulation. The channels of circulation carry *dhatu*s undergoing transformation to their destination^[13]. It is the path helps for the transformation of substances is called *srotas*. Nutrients substances supplied to cells and tissues via the process of transudation through path are called *srotas*^[14]. *Rasa dhatu* during the process of circulation gets stuck up due to vitiation of the channels of circulation. It is at this very site of morbidity, that the disease is manifested. As the rains are caused by the obstructed cloud in the sky, similarly, the *doshas* get vitiated in that particular spot to cause morbidity in a part of the body. *Ayurveda* is an applied science so this system's proper working indicates towards ease, towards health and when this transport system of the body is not working properly it shows disease or disease. This system is responsible for the nutritional exchange and transportation and is deeply associated with the tissues. Number of the ducts and transport system cannot be counted because this is incalculable^[15].

Conclusion: The role of *srotas* in the manifestation of diseases is well discussed in almost all *Ayurvedic Acharyas* so also its importance in the maintenance of normal physiological functions i.e. the basis for good health. A complete knowledge of *srotas* is must

to approach a patient in a holistic way. Manifestation of a disease occurs in body as a result of defective *srotas* in the body. So any defect of *srotas* must be corrected quickly, for the restoration of normal health.

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