STUDY OF SROTORODHA (OBSTRUCTION OF SYSTEM) - A LITERARY REVIEW

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ABSTRACT

Ayurveda is a science which focuses not only on treatment but also to prevent disease and to maintain health. When the endogenous factors, the digestive power, the body elements and waste products are in balanced physiological state along with wellbeing of soul, sense organs and mind, then that individual is called as healthy. Due to some reason if these constituents get disturbed, then one has to suffer the disease. Among these factors, aggravated Doshas (endogenous factors) are responsible for disease. These aggravated Doshas moving around through Srotasa (system) get settled in defective site of system which leads Srotorodha (obstruction of system) either structural or functional. This is responsible for the abnormal production of Dhatu (body elements) which gets vitiated by Doshas to produce disease. This study explains the Srotorodha (obstruction of channels) is one of important cause of disease and it can be treated by Shodhana Karma (Eliminative Therapy) and Shamana Karma (Palliative Therapy). Physician should treat it with wholesome diet and lifestyle.

Keywords: Doshas & Srotasa, Srotasa and Srotorodha, Blockage of system, Obstruction of system, Srotorodha - A cause of disease

INTRODUCTION

Healthy life relies on the proper union of body, sensory organs, mind and soul. Among these, body undergoes wear and tear constantly from birth to death. This type of degeneration needs the supplementary strength. For its nourishment, supply of food materials and excretion of waste product is done by small hollow pathways, which are called as Srotasa i.e. channels of circulation or system. According to their structure and function various systems in the body has given name like Pranavaha Srotasa (Respiratory system), Rasavaha Srotasa (Body nourishing fluid system) etc. So Srotasa is defined as the hollow channel, except Sira and Dhamani, which originates from root site, spreads in the body and carries (specific varieties of) the Dhatu (body elements).

According to Ayurveda, specific varieties of the system in the human body are the same in number as the structural entities in it. In the same manner, plant gets nutrients from soil to nourish itself. This circulation is carried out by the small channels of it. If there is any obstruction in these systems then the plant gets dried up.

According to Ayurveda, Srotasa is a system in which Utpatti (production), Parinama (conversion) and Vahana (circulation) of a body element takes place. If there is any disturbance in these functions then different kinds of diseases can be seen.
This study is proposed to explain the responsible factors for obstruction of system which leads to many diseases and to explain the treatment of it.

**AIMS AND OBJECTIVES:**
1. To study the fundamental concepts of Srotorodha.
2. To spread awareness among physicians to consider Srotorodha as one of the causative factors of disease.
3. To propose the wholesome Ahara (diet) and Vihara (regimen) for the disease caused due to Srotorodha.

**MATERIALS AND METHODS:**
For this study Ayurveda text has been used to evaluate the concepts. The text from Brihattrayee i.e. Charaka Samhita, Sushruta Samhita and Ashtanga Sangraha, Ashtanga Hridaya and their respective commentaries in Sanskrit as well as Hindi which were easily available.

Also text from Laghutrayee i.e. Madhava Nidana, BhavPrakasha, Vriksha Ayurveda have been used. Various related websites have been searched.

**CONCEPTUAL STUDY:**
The channels of circulation or system carry the Dhatus (body elements or their constituents) undergoing transformation to their destination. Acharya Sushruta says, system of circulation is called as Srotasa.

The concept of Srotasa cannot be explained in a single word. The broad meaning can be taken as a system. A Srotasa is a hollow structure where body element is produced, nourished, transformed in to another body element, carried and its excretory end product is excreted. It originates from small opening and spread all over the body. Sira and Dhamani are the alternative names of it but Srotasa, Sira and Dhamani are different from each other because of their difference in function, difference in number and difference in signs according to Agama Pramaṇa. In all, all the small openings in the body included as Srotas. According to Sushruta Samhita, aggravated Doshas when travel through the body get lodged in the site of Srotovaigunya(defective site in srotasa) where disease occurs. Thus Srotasa(system) gives a base for the production of a lesion in a disease.

Srotasa has same colour as that of Dhatus produced in it. The shape of a big or small, circular or elongated and tendon-like. Even though the number of Srotasa described by Ayurveda is innumerable, Acharya Charaka has described 13 major systems. Acharya Sushruta has described 11 pairs of systems. In addition to all these, Ayurveda has described two more Srotasas i.e. Manovaha Srotasa (System of mind), Stanyavaha Srotasa (Lactation system).

Most important cause to produce any disease is Srotovaigunya(defective site in a system). And according to Ayurveda causes of defective site in a system are Kulaja (hereditary), Jataja (congenital), Aaharaja (Dietary), Agantuja (External), SheshaDoshaja (Remanant causes) and Srotodushti (Vitiated system).

Causes of Srotodushti (vitiation of systems) are two: 1) The diet and daily regimen which is having similar qualities to that of Vata, Pitta & Kapha will cause their aggravation. This lead to disease, 2) The diet and daily regimen which is having qualities opposite to that of body elements will cause abnormal production of them. This abnormal body element forms the defective site in the system. The defective site forms the basis for the settlement of aggravated Doshas. Thus it
will lead the disease. From these two causes of vitiation of a system, structural or functional abnormality is developed in that system.  

Srotodushi (vitiation of system) can be seen by four signs i.e. Atipravruti (increase of the contents of the system), Sanga (non-flow of the contents of the system), Siragranthi (Reduction of lumen of the system) and Virmarggamana (diverted movement of the contents of the channels). Among these Sanga (non-flow of the contents of the system) and Siragranthi (reduction of lumen of the channels) can be included under obstruction of system. Sanga is a cause of functional obstruction of system and Siragranthi is a cause of structural as well as functional obstruction of system.

**TABLE NO.1: CAUSES OF STROTORDHA (OBSTRUCTION OF SYSTEM)**

<table>
<thead>
<tr>
<th>A) Consumable substances which are the causes of obstruction of system.</th>
<th>Snigdha (lubricity) and Picchila (slimy) guna</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sweet and Pungent taste</td>
</tr>
<tr>
<td></td>
<td>Guru (heavy)</td>
</tr>
<tr>
<td></td>
<td>Nava Madya (newly prepared wine)</td>
</tr>
<tr>
<td></td>
<td>Gokshira (cow milk)</td>
</tr>
<tr>
<td></td>
<td>Mahisha Dugdha (Buffalo milk)</td>
</tr>
<tr>
<td></td>
<td>Guda (Jaggery)</td>
</tr>
<tr>
<td></td>
<td>Navadhanya (new cereals)</td>
</tr>
<tr>
<td>B) Obstruction of system due to Adhyashana (eating food before the digestion of prior food)</td>
<td></td>
</tr>
<tr>
<td>C) Obstruction of system due to Viruddha Ashana (incompatible food)</td>
<td>These leads to Ama which act as a cause of obstruction of system.</td>
</tr>
<tr>
<td>D) Obstruction of system due to Abhishyandi Bhojana (intake of secretive food intake)</td>
<td></td>
</tr>
<tr>
<td>E) Obstruction of system due to Vihara (lifestyle)</td>
<td>Sleep at inappropriate time.</td>
</tr>
<tr>
<td></td>
<td>At night due to aggravated kapha.</td>
</tr>
<tr>
<td></td>
<td>Due to in appropriate Vamana (Emesis) therapy.</td>
</tr>
<tr>
<td></td>
<td>Giving Nasya (nasal administration) after Niruhabasti (decoction enema)</td>
</tr>
<tr>
<td></td>
<td>Excessive Snehapana (excessive drinking ghee)</td>
</tr>
<tr>
<td></td>
<td>Snehana (oleation therapy)</td>
</tr>
<tr>
<td>F) Obstruction of system due to aggravated Raasadhatu (tissue, blood devoid of erythropoietic elements)</td>
<td></td>
</tr>
</tbody>
</table>

**SYMPTOMS OF OBSTRUCTION OF SYSTEM:**
Obstruction of system leads the aggravation of Shariradhatu (body elements) which resides or flowing through system.\(^{31}\)

**SIGN OF OBSTRUCTION OF SYSTEM:**
Decrease of function and quality of the contents of Srotasa due to Shalya (foreign body) can be seen.\(^{32}\)

As long as all systems in the body perform their normal functions, there is no development of diseases. On the other hand, the obstruction of system leads the disease.\(^{33}\)

**TABLE NO.2: SIGNS OF SROTORODHA ACCORDING TO PARTICULAR SROTASA:**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of Srotasa (System)</th>
<th>Signs of Srotorodha or leads diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pranavaha Srotasa (Respiratory system)</td>
<td>Hicca (Hiccup)(^{34}), Shwasa (Asthma)(^{55}), Kasa (Cough)(^{36}(i)).</td>
</tr>
<tr>
<td>2</td>
<td>Annavaha Srotasa (Digestive system)</td>
<td>Annanaabhlasha (disclination for food), aruchi (anorexia) and avipaka (indigestion)(^{36}(ii)).</td>
</tr>
<tr>
<td>3</td>
<td>Udakavaha Srotasa (Water metabolism system)</td>
<td>Pipasa (Thirst)(^{37}), Udararoga (Ascites)(^{38}).</td>
</tr>
<tr>
<td>4</td>
<td>Rasavaha Srotasa (Body nourishing fluid system)</td>
<td>Jvara (Fever)(^{39}), Panduroga (Anaemia)(^{40}), Shothvyadhi (Oedema)(^{41}), Hridayaroga (Heart Disease)(^{42}).</td>
</tr>
<tr>
<td>5</td>
<td>Raktavaha Srotasa (Haemopoetic system)</td>
<td>Kama-la (Jaundice)(^{43}), Visarpa (Erysepalas)(^{44}), Vatarakta (Gout)(^{45}), Rajayakshma (Tuberculosis)(^{46}), Pandu (Anaemia)(^{47}).</td>
</tr>
<tr>
<td>6</td>
<td>Medovaha Srotasa (Fatty tissue system)</td>
<td>Sthoulsya (obesity)(^{48}).</td>
</tr>
<tr>
<td>7</td>
<td>Majjavaha Srotasa (Bone marrow tissue system)</td>
<td>Leads Murccha (fainting)(^{49}).</td>
</tr>
<tr>
<td>8</td>
<td>Shukrabha Srotasa (Reproductive system)</td>
<td>Clibata (male infertility) can be seen.(^{50})</td>
</tr>
<tr>
<td>9</td>
<td>Mutravaha Srotasa (Urinary system)</td>
<td>Leads Prameha (Diabetes)(^{51}), Ushnavata (Gonorrhoea)(^{52}), Ashmari (urinary calculi)(^{53}).</td>
</tr>
<tr>
<td>10</td>
<td>Purishavaha Srotasa (Defaecation system)</td>
<td>Arsha (Piles)(^{54}), Sannirudha Guda (Anal Stricture)(^{55}) can be seen.</td>
</tr>
<tr>
<td>11</td>
<td>Swedavaha Srotasa (Perspiration system)</td>
<td>Indralupta(^{56}), Khalitya (Alopecia)(^{57}), Jwara (Fever)(^{58}).</td>
</tr>
<tr>
<td>12</td>
<td>Aartavavaha Srotasa [nutrients of the female reproductive system (ova)]</td>
<td>leads NaArtavam Drushyate Garbham (Amenorrhoea due to foetus)(^{59}), Vandhyatva (female infertility)(^{60}).</td>
</tr>
</tbody>
</table>
In Charaka Samhita, Mamsavaha (Muscular, Asthivaha(Skeletal) srotodushti (vitiation of system) is not explained but its pradoshaja vyadhi(diseases) are explained as follows:

In Mamsavaha Pradoshaja Vyadhi(diseases of Muscular system) Adhimamsarbuda (Granuloma), Arbuda(myoma), Kila(piles), Galashundika (uvulitis), Galashundika(tonsillitis), Putimamsa(slow ughing of flesh), Alji(boils), Gandamala(cervical adenitis), Upjivhika (Inflammation of epiglottis) are included.

In Asthivaha Pradoshaja Vyadhi (disease of skeletal system) AdhiAsthi (Extra bone), AdhiDanta (extra teeth), Danta Bheda (dental caries), Danta Shula (dental pain) are included.

TREATMENT OF SROTORODHA:
- Destruction of Dosha Dushya Sammurchana (combination of Dosha &Dushya i.e tissue elements) is the only treatment.
- Due to Vishyanda-na (increase fluidity), Vruddhya (aggravated Dosha), paka (suppuration), srotomukhavishodhana (removal of obstruction of channels), the vitiated dosha leave shakha (periphery) and come to the koshtha (alimentary tract) from which it can be easily removed.
- By Samanya Vishesha principle , Samanya - a state of generality or similarity is always responsible for augmentation of all three categories - i.e. matter, quality and action. The Vishesha is the cause of diminution only in the absence of an inhibiting factor.
- Srotorodha can be removed by normal Vyana Vayu.

TABLE NO.3: TREATMENT OF PARTICULAR SROTORODHA:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of Srotasa</th>
<th>Treatment</th>
<th>ShamanaKarma (Palliative Therapy)</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pranavaha Srotasa (Respiratory system)</td>
<td>Emesis, Purgation therapy&lt;sup&gt;68&lt;/sup&gt;</td>
<td>Dīpana (digestive stimulants), Bṛuha-nā (Nourishing Therap y)&lt;sup&gt;69&lt;/sup&gt;</td>
<td>_</td>
</tr>
<tr>
<td>2</td>
<td>Annavaha Srotasa (Digestive system)</td>
<td>_</td>
<td>Dipana (digestive stimulants), Pachana Dravyas (Digestive substances)&lt;sup&gt;70&lt;/sup&gt;</td>
<td>_</td>
</tr>
<tr>
<td>3</td>
<td>Udakavaha Srotasa (Water metabolism system)</td>
<td>_</td>
<td>same as that of Trushna (Thirst)&lt;sup&gt;71&lt;/sup&gt;</td>
<td>_</td>
</tr>
<tr>
<td>4</td>
<td>Rasavaha Srotasa (Body nourishing)</td>
<td>_</td>
<td>fasting of all types&lt;sup&gt;72&lt;/sup&gt;</td>
<td>_</td>
</tr>
<tr>
<td>Srotas</td>
<td>Description</td>
<td>Purgation,fasting,blood-letting.</td>
<td>RaktaVilayana Dravya(substance which dialates the Rakta)</td>
<td>Shastra(surgery), Kshara(alkalies),and Agnikarma( cauterization).</td>
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<td>--------</td>
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<td>----------------------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>5</td>
<td>Raktavaha Srotas (Haemopoietic system)</td>
<td>Purgation,fasting,blood-letting.</td>
<td>RaktaVilayana Dravya(substance which dialates the Rakta)</td>
<td>Shastra(surgery), Kshara(alkalies),and Agnikarma( cauterization).</td>
</tr>
<tr>
<td>6</td>
<td>Mamsavaha Srotas (Muscular system)</td>
<td>Ashtouninditaadhyaya enema with drug of sharp, hot and unctuous quality.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>Medavaha Srotas (Fatty tissue system)</td>
<td>five elimination therapy.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td>Asthivaha Srotas (Skeletal system)</td>
<td>Ashtouninditaadhyaya enema with drug of sharp, hot and unctuous quality.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9</td>
<td>Majjavaha Srotas (Bone marrow system)</td>
<td>bitter tastes and timely elimination of doshas in proper quantity.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>Shukravaha Reproductive system</td>
<td>timely elimination of doshas in proper quantity.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>Purishavaha</td>
<td>-</td>
<td>-</td>
<td>wholesome food which clarifies the channels.</td>
</tr>
<tr>
<td>12</td>
<td>Mutravaha</td>
<td>-</td>
<td>-</td>
<td>wholesome food which clarifies the channels.</td>
</tr>
<tr>
<td>13</td>
<td>Swedavaha</td>
<td>-</td>
<td>-</td>
<td>wholesome food which clarifies the channels.</td>
</tr>
<tr>
<td>14</td>
<td>Artavavaha</td>
<td>Panchakarma in a mild form.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>15</td>
<td>Manovaha</td>
<td>Elimination therapy whatever needed as per the predominance of dosha. And patient should be consoled by friends with religious and moral state-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Diet substances through which Srotorodha can be removed are as follows:-
Yava (Barley), Manda (liquid portion of rice gruel), Jirnamadya (old wine), Madya (wine), Takra (buttermilk), Mastu (whey-watery portion of curd), Lavana (salt), Katurasa (pungenttaste), Chagamamsa (meat of goat), Ushna jala (hot water), Guggulu (Commiphora wightii), Mudga (Green gram- Phaseolus aureus), Madhu (honey), Dhanayaka Hima (cold infusion of corianderum sativum), Panchakola (combination of drugs like Pippali, Pippalimula, Chavya, Chitraka, shunthi in equal quantity).
These all substances can be use as wholesome diet for the diseases occurred due to Srotorodha.

DISCUSSION
Till all the Srotasa(systems) in the body are normal, there is no development of diseases. Defective site of Srotasa is equally important as that of provoked Doshas. Even though the aggravated Doshas are moving around through various systems, they are not capable of producing a disease, if there is no defective site available for their settlement. Once a defective site is developed, the Doshas get settled over there and produce either structural or functional obstruction in that system. This results in abnormal production of Dhatu (body element) of that system. This Dhatu gets vitiated by the Doshas, giving rise to a disease
Cause of disease is mainly due to obstruction of channels of circulation or Srotasa. Most of the times Srotorodha occurs due to aggravated Vata Dosha, abnormal functioning of organs and foreign body. Sharirika Srotorodha can be perceived from Khavaigunya of Srotasa(defective site of system) and ManasikaSrotorodha can be perceived from Hina Satva(lower quality of mind).
By abnormal AharaVihara, Sharirika Doshas get aggravated which travel through body, lodged in the site of khavaigunya of srotasa(defective site of system) which leads disease.
By abnormal AharaVihara, ManasikaDoshas – Raja and Tama gets disturbed which cover the satvaguna of mind and leads to Manasika vyadhi.
Charakacharya has explained the symptoms of vitiation of Doshas among which Sanga and Siragranthi leads obstruction of system. But Sanga & Siragranthi have not been focused to great extent in the texts.
Charakacharya has explained Srotomula(root of channel)along with Srotodushti Lakshana(signs vitiation of channels) which leads to physiological abnormality.
Acharya Sushruta has explained Srotomula(root of channel)along with Srotoviddha Lakshana(signs of injury to system) which leads to anatomical abnormality.
Comparative study reveals that the symptoms which are described in CharakaSamhita as Srotodushti (vitiation of system), some of them are explained in Sushruta Samhita as Srotoviddha Lakshana(signs of injury to system). This shows that the symptoms of obstruction of system decrease the own function and quality of particular system which are as Srotodushti(vitiation of system)and Srotoviddha Lakshana(injury to the system).
For example, in Charaka Samhita among the symptoms of Annavaha Srotodushti
Arochaka (Anorexia), Avipa-ka (Indigestion), Annaanaabhilasha (discipline for food) are due to Ama- Srotorodha. The same symptoms are seen as Aadhma-na (distention of abdomen due to flatulence), Annadvesha (discipline for food/ hatred to food) as StrotoviddhaLakshana in Sushruta Samhita.

Both symptoms can be included as the cause of Srotorodhade due to Ama.

CONCLUSIONS

- Srotasa (System) is structure in body, in which transformation of dhatu (tissue) and its circulation takes place.
- Doshas by nature have the power of vitiating tissue elements. Tissue elements on the other hand, do not possess this power of vitiation. Whenever, anything is said to get vitiated by Dhatus, this by implication means that the Doshas located in the vitiating Dhatus play that role.
- Due to srotorodha, the function and quality of the dependent Dhatu get disturbed or decreased.
- Among the signs of Srotodoshti, Atipravruti and VimargaGamana can be treated by Shodhana (Eliminative) Therapy. Sanga can be treated by Shama-na (Palliative Therapy) and Siragranthi can be treated by surgical treatment.
- Aggravated Rasa Dhatu causes Srotorodha where as normal Vyana Vayu removes Srotorodha.
- Srotorodha leads to abnormality in organs and to death also.
- Affliction of the channels leads to the vitiation of the tissue elements residing there or passing through them-vitiation of one leads to the vitiation of other. The vitiated channels and Dhatus (tissue elements) on their part vitiate other channels and Dhatus respectively.
- In the treatment of Srotorodha conservative as well as surgical therapy is needed.
- In the treatment of Manovaha Srotorodha along with Anjana (collyrium therapy), Nasya (nasal therapy) and Ashvasana (Assurance) is also needed.
- In the treatment of Sharirika Srotorodha, purificatory therapy is needed.
- The substances which have Guru (heavy), Manda (slow), Hima (cold), Snigdha (unctuous), Sthira (stable), Pichila (slimy), Abhishyandi (secretive) quality are responsible for Srotorodha.
- For its treatment, substances of exactly opposite to these quality i.e. Laghu (light), Ruksha (rough), Ushna (hot), Chala (unstable), Vishada (lucid), Anabhishyandi (Non Secretive) can be used.
- Usually Madhura Rasa (sweet taste) and Kashaya Rasa (astringent taste) are responsible for Srotorodha and Katu (pungent) and Lavana (salt) taste are used to remove the Srotorodha.

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