

IMPORTANCE OF *SROTODUSTI* IN ISCHEMIC HEART DISEASE AND IT'S MANAGEMENT ACCORDING TO AYURVEDA

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ABSTRACT

INTRODUCTION: Cardiovascular disease is the most frequent cause of adult death in western world. In the view of the increasing morbidity and mortality by these diseases, it has become a timely necessity to understand the pathophysiology of disease properly and to explore traditional indigenous system of medicine. **MATERIAL & METHOD:** The concept of *srotas* is defined vividly and scientifically in ayurvedic texts. Stated that any corporeal entities do not arise or decay without *srotas*. (*ch. vi. 5/3*). *Srotas* may be considered as the channels (micro and macro) on the basis of morphology. Micro channels like vessels, capillaries, lymphatics etc. In IHD there is

involvement of three types of *srotas* as- *Rasavaha srotas*, *pranavaha srotas* and *manovaha srotas*. As described in different *samhitas* *hridaya* is *mool sthan* of these three *srotas*. That's by these three *srotas* are responsible for pathogenesis of ischemic heart diseases. **RESULT:** *Charak* mentions that the person is the aggregate of *srotas*. (*ch.vi.5/4*) Manifestation of a disease occurs in the body as a result of the defective *srotas*. Hence any defect in the *srotas* must be corrected quickly for the restoration of normal health. **DISCUSSION:** Presenting paper emphasis on the proper understanding of *srotasdusti* in a systemic manner to understand the pathophysiology of IHD as-*Rasavaha srotodusti*- Atherosclerosis–Arjuna, Guggulu, Garlic *Pranavaha srotodusti*–Cor-pulmonale– *asasindura*, *Tapyadi loha Manovaha srotodusti*- Hypertension – *Brahmi*, *Jatamansi*, *sarpagandha* etc.

KEYWORDS: *Srotas*, *rasavah srotas*, *raktavaha srotas*, *manovaha srotas*, *hridaya*, IHD.

INTRODUCTION

Ischemic heart disease (IHD) causes more deaths and disability and incurs greater economic costs than any other illness in the developed world. IHD is the most serious, chronic, life threatening illness in the United States. With urbanisation in the developing world, the prevalence of risk factors for IHD is increasing rapidly in these regions. IHD is likely to become the most common cause of death worldwide by 2020.^[1] Ischemic heart disease is defined as myocardial impairment due to imbalance between coronary blood flow and myocardial requirement. According to Ayurvedic literature, *srotodusti* is the key factor for occurrence of disease.^[2]

It is a unique presentation, it states *srotas* involvement in IHD. As different Samhita mention that *hriday* is the *mool sthan of rasavahi srotas, pranavahi srotas & manovahi srotas (charak, sushrut, bhel.)*. As there is similarity seen in causes, pathophysiology and symptoms according to Ayurveda & modern aspect so it can be correlated as-

SROTODUSTI	DOSHA	IHD	AYU. TRET.
<i>Rasavahasrotas</i>	<i>Avalambak kapha</i>	Atherosclerosis	<i>Guggulu, Garlic,</i>
<i>Pranavahasrotas</i>	<i>Sadhak pitta</i>	Cor-pulmonale	<i>Ras-sindoor</i>
<i>Manovahasrotas</i>	<i>Vyana vayu</i>	Hypertension	<i>Brahmi(unmad-apasmara har chi)</i>

AETIOLOGY^[3]

1. SEX

The disease is more common in men compared to women in a ratio of 25:1.

2. HYPERLIPIDAEMIA

Diets high in lipid contents, especially in saturated fats, which in turn increase serum cholesterol levels, are linked to the development of atherosclerosis.

3. SMOKING

There is a definite dose-related link between cigarette smoking and ischemic heart disease (cor-pulmonale).

4. DIABETES MELLITUS

Diabetes reportedly doubles the risk of atherosclerotic coronary heart disease. Diabetes is also related with obesity, hypertension, and increased serum cholesterol level.

5. STRESS

It is an important factor.

6. HEREDITY

A family h/o premature atherosclerotic coronary heart disease is an important risk factor.

7. OTHER FACTORS

Sedentary life style, lack of physical exercise is also associated with IHD.

***SROTAS*^[4]**

The term *srotas* is derived from the root “*su sravano*” means that which ‘exude’ ‘ooze’ ‘filter’ ‘permeate’.

The concept of *srotas* is defined vividly and scientifically in ayurvedic text. *charak samhita* stated that any corporeal entities do not arise or decay without *srotas*.

“*Yavantah purushe murtimanto bhav-visheshastavantah eva-asmin srotasam Prakarvisheshah*” (ch. vi. 5/3)

यावन्तः पुरुषे मुर्तिमन्तो भावविशेषास्तावन्त एवास्मिन् स्रोतसां प्रकारविशेषाः।.....॥ (च.वि. ५/३)

Srotas are defined as the transporting passage of dhatus undergoing transformations.

Srotansi khalu parinaamama-apadhyamananam dhatunaamabhivahini bhavantyayanaarthe”(ch.vi.5/3)

स्रोतांसि खलु परिणाममापद्यमानानां धातूनामभिवाहीनि भवन्त्यनार्थेन । (च. वि. ५/३)

Charak mention that the person is the aggregate of *srotas*.^[4]

“*Api cha-eke srotasam eva samudayam purusham echanti.....*”(ch.vi.5/4)

अपि चेके स्रोतसामेव समुदयं पुरुषमिच्छन्ति.....। (च. वि. ५/४)

IMPORTANCE OF *SROTAS*^[5]

Srotas may be considered as the channels (micro or macro) on the basis of morphology. These channels functions as the medium through which the biological materials, nutrients and waste products flow from the *kostha* and to the exterior. It refers both to the gross major

channels like respiratory tract, gastrointestinal tract, genito-urinary tract etc. Micro channels like vessels, capillary, lymphatics, etc and also to the molecular channels like the permeability of membranous pores of cell membrane etc.

It is prerequisite for the maintenance of good health because without healthy *srotas* body can't grow normally.

SROTODUSTI LAKSHAN^[6]

Charak samhita states four types of srotodusti lakshanas.

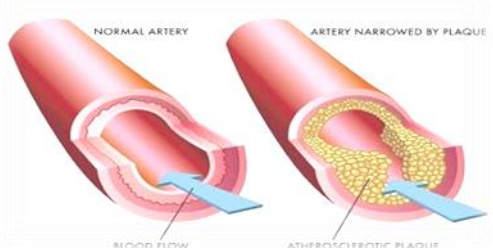
“*Atipravruttiḥ sango va siranam granthayo api va | Vimarga-gamanam cha api srotasam dusti lakshane ||*” (ch. vi.5/ 24)

अतिप्रवृत्तिः संगो वा सिराणां ग्रन्थयोऽपि वा । विमार्गगमनं चापि स्रोतसां दुष्टिलक्षणं ॥ (च. वि. ५/२४

COMPARITIVE STUDY OF RASAVAHA SROTODUSTI & ATHEROSCLEROSIS

Atherosclerosis is a disease in which plaques builds up inside arteries. it is made up of fat, cholesterol, etc which may cause IHD that leads to heart attack, stroke or even death.^[7]

CAUSES	
RASAVAHA SROTODUSTI⁸	ATHEROSCLEROSIS
<i>Guru</i> (refined, carbohydrate rich)	Obesity
<i>Sheetam</i> (ice cream, cold-drinks)	Excessive use of cold-drinks
<i>Atisnigdham</i> (saturated fats)	High cholesterol, Triglyceride level
<i>Atimatram</i> (over-eating)	Obesity / diabetes mellitus
<i>Samashnat</i> (mixing of shadaras with each other)	An unhealthy diet
<i>Chintyanama cha atichintanat</i> (chinta, shoka, lobha, moha)	High blood pressure
PATHOPHYSIOLOGY	
RASAVAHA SROTODUSTI	ATHEROSCLEROSIS⁹
<p><i>Mitha aahar-vihaar</i></p> <p>↓</p> <p><i>Agnimandhya</i></p> <p>↓</p> <p><i>Aam-utapatti</i> (<i>visheshatah medas</i>)</p> <p>↓</p>	<p>Causative factors – false diet & life style changes</p> <p>↓</p> <p>Hypercholestremia</p> <p>↓</p> <p>Atherosclerosis</p>

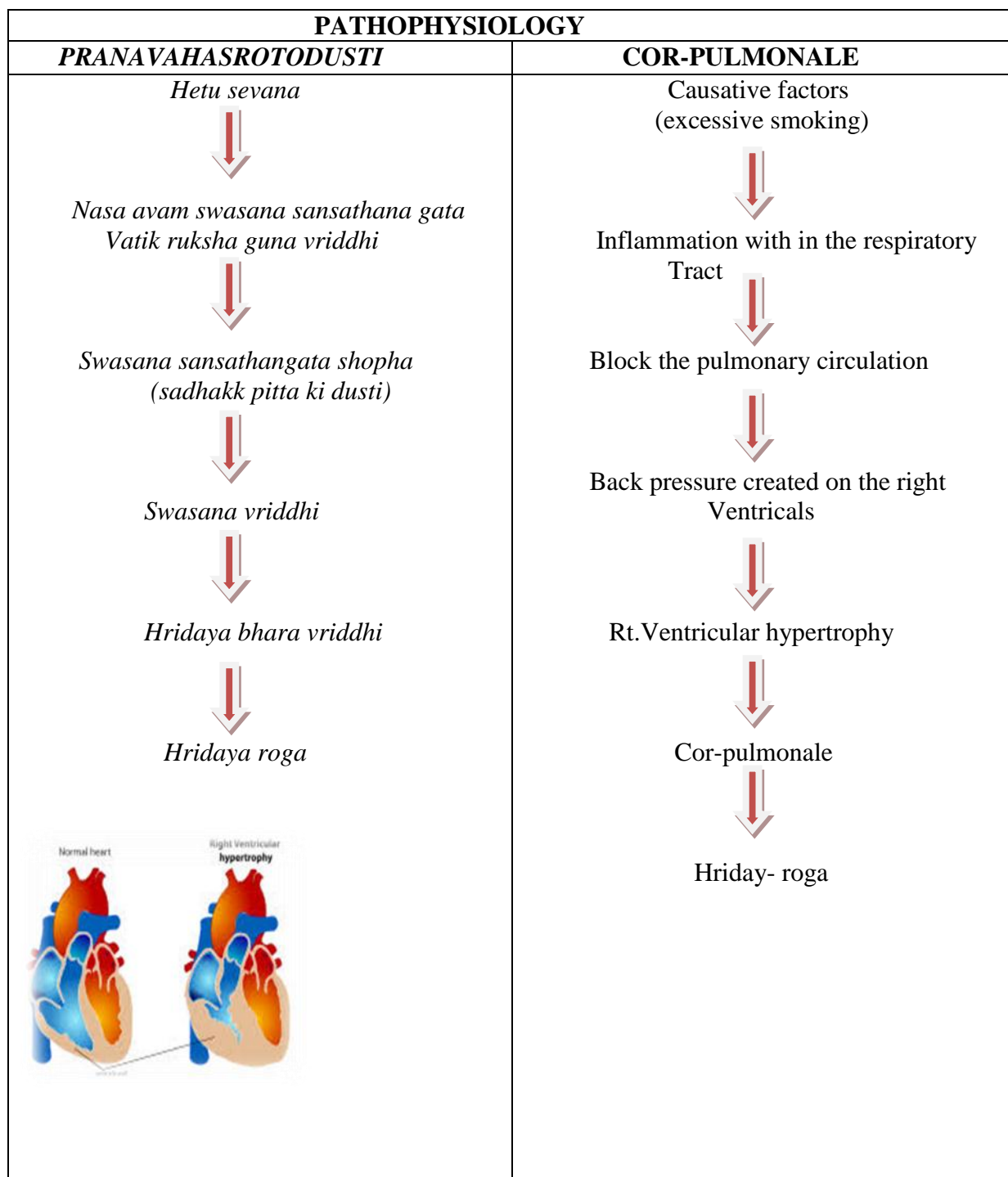
<p>Srotosanga (<i>Dhamani-pratichaya</i>)</p> <p>↓</p> <p>Hridaya-roga</p>	<p>ATHEROSCLEROSIS</p>  <p>↓</p> <p>Ischemic heart disease</p>
SYMPTOMS	
RASAVAHA SROTODUSTI ^[10]	ATHEROSCLEROSIS
<i>Ashradha, Aruchi</i>	Anorexia
<i>Asya-vairasya, Arasagyata</i>	Tastelessness
<i>Hrullas</i>	Nausea
<i>Gaurava</i>	Heaviness & chest pain
<i>Srotorodha</i>	Obstruction in arteries
<i>Saada</i>	Numbness

COMPARATIVE STUDY OF PRANA VAHASROTODUSTI AND COR-PULMONALE

Cor-pulmonale also known as pulmonary heart disease, it is the enlargement and failure of the right ventricle of the heart as a response to increased vascular resistance (such as pulmonary stenosis) or pulmonary hypertension. In it the cause must originate in the pulmonary circulation system. The heart and lungs are intricately related, whenever the heart is affected by a disease, the lung will follow and vice versa. There is lung causes the heart to fail.^[11]

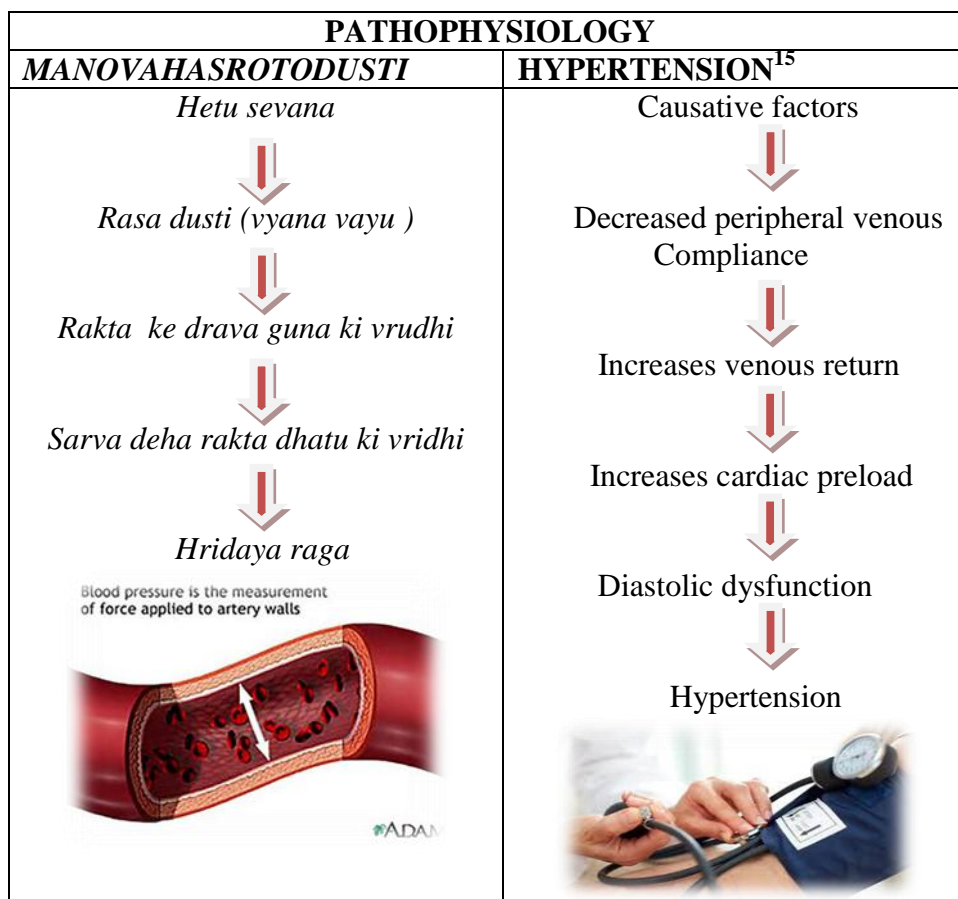
CAUSES	
PRANA VAHA SROTASDUSTI ^[12]	COR-PULMONALE
<i>Kssshyata(dhatu kshaya)</i>	Smoking (COPD)
<i>Sandharnat(vegadharana)</i>	Constipation
<i>Raukshat (rukshata)</i>	Dry food intake
<i>Vyayamat kshudhitasya</i>	Excessive exercise
<i>Anya daruna karma</i>	Excessive hard work(as in industry)

SYMPTOMS	
PRANA VAHA SROTAS ^[13]	COR-PULMONALE
<i>Atisrashtam atibaddham</i>	Tiredness (d/t deep breath)
<i>Alpam-abhikshanam</i>	Shortness of breath
<i>Sa-shabdashoolam</i>	Coughing & chest pain
<i>Uchawasam</i>	Increased heart rate



COMPARATIVE STUDY OF MANOVAHASROTODUSTI & HYPERTENSION

CAUSES	
MANOVAHASROTODUSTI^[14]	HYPERTENSION
<i>Rajo & Tamo guna pradhan mana</i>	Depression
<i>Vatik prakruti</i>	Aging
<i>Kama, krodha, moha</i>	Stress
<i>Atyadhik Harsh, utsah</i>	Over-excitment



SYMPTOMS	
MANOVAHASROTODUSTI ¹⁶	HYPERTENSION ¹⁷
<i>Shirashah shunyata</i>	Lightheadedness
<i>Swanah karnayoh</i>	Tinnitus
<i>Sanmoha</i>	Blurred vision
<i>Udvega</i>	Anxiety
<i>Hridavaha</i>	Increased heart rate
<i>Unmatta chittasya</i>	Palpitations

PHARMACOLOGICAL APPROACH ACCORDING TO SROTODUSTI

1. RASAVAHASROTODUSTI (ATHEROSCLEROSIS)

In case of atherosclerosis there is an obstruction in the path. i.e there is predominance of *prathvi* and *jala mahabhoot* who are responsible for obstruction so there is need of those *dravyas* which are *akaash* and *vayu mhabhoot pradhan*, means *tikta rasa dravyas* are best choice for *rasavaha srotodusti*.

EKALA AUSHADHA^[18]

- ❖ **ARJUNA (*Terminalia arjuna*):** It is *kashaya rasa pradhan dravya* and has vaso-constrictor property & increases the blood pressure, so it should be avoid in case of atherosclerosis.

- *Pipli* *Vasa-avaleha*
- *Yasthimadhu*

b. For inflammation in lungs

- *Puskarmool* *Sameerpannaga rasa*
- *Rasasindoor* *Shring-bhasma*

c. To prevent damage and hardening of the pulmonary arteries-

- *Chandrakala rasa* *Mhamangishthadi kwath*
- *Sariwasava* *tapyadi loha*

d. To strength the right ventricle& improves it's function-

- *Arjunarishtha* *Lakshmivilas rasa*
- *Shring bhasma* *Lakshadi guggulu*

SHODHAN CHIKITSA- *Virechan* gives a good result in it.

YOGAABHYASA- *Anuloma-vilom panayam-* increases the functioning of lungs.



3. MANOVAHA SROTODUSTI(HYPERTENSION)

There is predominance of *vata dosha*.so, *vatahara chikitsa* should be done and those drugs which relax the mind preffered.

- *Brahmi* *Jatamansi*
- *Sarpagandha* *Shatavari*

SHODHAN CHIKITSA- Should be avoid,if necessary *mradu virechan* can be done.

YOGA ABHYAS

Yoga has great effect *in manovahi srotodusti*

As- *Shavaasana, Makarsana*

Savasana



Laughter is an effective therapy for *manovaha srotodusti*.

Unmada-apasmara hara chikitsa – as ghrit-pana.

RESULT

It has become a timely necessity to understand disease process properly and explore traditional indigenous system of medicine, so that drugs stated useful in ancient lit for these diseases can be used for IHD.

DISCUSSION

It is prerequisite for the maintenance of good health because without healthy *srotas* body cannot grow normally. Any slight disturbance at the level of *srotas*, either structurally or functionally, leads to the *sammurchana of dosha & dushya* and as a result disease manifests inside the body. A complete knowledge of *srotas* is must to approach a patient. Ayurvedic books described a number of drugs of different groups which are promisingly effective in various cardiac diseases. In *rasavaha srotodusti* there is predominance of *kapha* therefore chikitsa should be *vatapradhan i.e tikta dravya yukta*. In *pranavah srotodusti* there is *pittapradhan samprapti* so *pittashamaka chikitsa* done, *virechan* if required. In *manovaha srotodusti* there is *dusti of mana & mana* rests in *hridaya*. Its pathophysiology as similar as *unmad apsmara* that by chikisa should be done as mentioned in *unmad-apasmara*. Moreover yoga practices has an important role in the prevention or managing the IHD.

CONCLUSION

From above literary review and discussion, it can be concluded that in IHD diseases there is similarities present in causes, pathophysiology & symptoms of diseases according to ayurveda and modern both. So *rasavaha srotodusti*, *pranvaha srotodusti & manovaha srotodusti* mainly occur according to *samprapti chakra* in IHD The drugs as described above are being effective for cure on the modern parameters also.

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