

ANALYTICAL STUDY ON *ASTHIVAHA SROTAS* & ITS APPLIED ASPECT

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ABSTRACT

“*Dosha Dhatu Mala Mulam Hi shariram*” which means that *Vataadi Tridosha, Rasadi Sapta Dhatu & Trimala (Mutra, Purish, Sweda)* are the building blocks of human body. For a healthy body each individual should have *Sama Pramana* of *Dosha Dhatu & Mala* & for which their continuous and proper flow is necessary in human body. Their proper and continuous flow requires hollow spaces & channels. In *Ayurveda* classics these channels are called as *Srotas*. According to *Ayurveda*, entire body is made up of *Srotas* (micro & macro channels) which transports all types of materials from one part to another part of the

body. It can be said that the only thing which is responsible for *Sama Pramana* of *Dosha, Dhatu & Mala* in the body is *Srotas*. In broad spectrum, we can say that any pathology occurs only if there is disequilibrium of any of these three: *Dosha, Dhatu & Mala* which in turn depends on the healthy state of *Srotas*. It is very necessary to know the state of *Srotas* along with *Doshas* and *Dhatus* to make an *Ayurvedic* diagnosis. By knowing which *Srotas* are affected and the nature and extent of their disturbances one can understand about the diseased person. As *Srotas* are the channels in the body and their health is an indicator of the status of the content too. *Dushti* of the *Srotas* plays an important role in the pathogenesis of diseases. So the management at the level of pathogenesis factor can revert back the diseased condition and hence treating the *Srotas Dushti* can help in the same way. In this article I had tried to compile all the references specifically related to the *Asthivaha Srotas Dushti* & justification of its line of treatment.

KEYWORDS: *Asthivaha Srotas, Ayurveda, Dosha, Dhatu, Mala.*

INTRODUCTION

“*Dosha Dhatu Mala Mulam Hi shariram*” which means that *Vataadi Tridosha, Rasadi Sapta Dhatu & Trimala (Mutra, Purish, Sweda)* are the building blocks of human body.^[1] For a healthy body each individual should have *Sama Pramana* of *Dosha Dhatu & Mala*^[2] & for which their continuous and proper flow is necessary in human body. Their proper and continuous flow requires hollow spaces & channels. In Ayurveda classics these channels are called as *Srotas*. Dictionary meaning of word *Srotas* is – a current, a stream, a river. The term *Srotas* derived from the root ‘*Sru*’ (*Gatyarthaka*) & ‘*Asrun*’ suffix to make the term. *Srotas* are meant to carry *Dhatu* in stage of metabolism. It means *Srotas* is a processing unit in which function of biotransformation of previous *Dhatu* to next *Dhatu* occurs.

According to *Ayurveda*, entire body is made up of *Srotas* (micro & macro channels) which transports all types of materials from one part to another part of the body. It can be said that the only thing which is responsible for *Sama Pramana* of *Dosha, Dhatu & Mala* in the body is *Srotas*. In broad spectrum, we can say that any pathology occurs only if there is disequilibrium of any of these three: *Dosha, Dhatu & Mala* which in turn depends on the healthy state of *Srotas*. The core of *Ayurvedic* medicine is the *Srotas*, an interconnected web of bodily functions said to conduct a healing, sacred energy from head to toe.

Srotas cannot be correlated not only to the modern equivalent systems of body such as GIT, Urinary, and Reproductive system only. But even can be understand at cellular level like intercellular or intracellular transportation. In cellular biology, the passage of solutes such as ions & small molecules through biological membranes lipid bilayers having characteristic of selective membrane permeability, means they can be permeable to certain substances but not to others. The same concept of selective absorption in *Ayurveda* classics are described as *Khalekapota Nyaye & Kedarikulya Nyaye*.

AIM AND OBJECTIVES

1. To study the general concept of *Srotas* by review of ancient classics.
2. To study the *Asthi Kahaya & Asthivaha Sroto Dushti Lakshan*.
3. To study the *Mulasthanas* of *Asthivaha Srotas* & its applied aspect.
4. To study the clinical significance of *Asthivaha Srotas* in disease condition.

NEED OF STUDY

Any pathology occurs only if there is disequilibrium of any of these three: *Dosha, Dhātu & Mala* which in turn depends on the healthy state of *Srotas*. It is very necessary to know the state of *Srotas* along with *Doshas* and *Dhatus* to make an *Ayurvedic* diagnosis. By knowing which *Srotas* are affected and the nature and extent of their disturbances one can understand about the diseased person. *Dushti* of the *Srotas* plays an important role in the pathogenesis of diseases. So the management at the level of pathogenesis factor can revert back the diseased condition and hence treating the *Asthivaha Srotas Dushti* can help in the same way. So there is a great need to study the *Asthivaha Srotas* along with its *Mula Sthana*, its *Dushti* & line of treatment.

MATERIAL AND METHODS

Literary references were collected and analysed from *Ayurvedic* classics, commentaries, modern literature, other recently published books, research journals, internet etc.

Concept of *Srotas* in *Ayurveda*

According to the verse, “*Bhetta hi Bhedyam Anyatha Bhinnatti*”^[3] – which means that different *Acharya* categorise all the structural & functional entity in the body in different ways. According to *Acharya Charaka* the specific varieties of the channels of circulation in the human body are the same in number as the *Murtimanta Bhaav* (structural entities) in it.^[4] Such as the *Sapta Dhātu, Trimala*, and these all are the *Murtimanta Bhaav* in the human body and for their formation each having their own *Srotas*. In spite of existence of numerous *Srotas*. *Acharya Charaka* has mentioned a brief description of *Srotas* for an unwise people and also said that for a wise people this description will provide enough material enabling him to understand the characteristic features of other channels which are not described.^[5] According to some *Acharya*, living body is a system of channels and it is composed of innumerable channels designed as inner transport system for various functions like secretion, absorption, excretion, circulation etc but it is not supported by *Acharya Charaka*.^[6]

Acharya Charaka mainly described the gross channels with reference to their controlling organs (*mool*) and also the symptoms manifested by their vitiation (*Sroto Dusti Lakshan*). In this way, *Charak Acharya* has laid more stress to understand and explain the *Srotas* and their role in the maintenance and in health of bringing out a pathological condition. While the Categorization of the *Srotas* in *Sushruta Samhita* are based on the applied significance from the corner of *Shalya Tantra* which mainly deals with divided definite body area where as in

Charaka Samhita (Kaya Chikitsa pradhan Grantha) deals with the body in total. In the commentary of this context, *Dalhana* said that Pain arising due to *Srotodusti* is very important in vision of *Kaya Chikitsa* and it is opposite in *Shalya Tantra* where *Srotoviddha Lakshana* are localized and are for prognosis assessment.^[7] *Kaya Chikitsa* gives importance to only that *Srotas*, where any deformity arises pain. This may be the point of difference in number and variety of *Srotas* according to *Susruta Samhita* and *Caraka Samhita*.

Synonyms

Sushruta affirmed that the characters roots (origin) functional entity and authenticity denotes the differences among the *Sira*, *Dhamani* and *Srotas*. Only because of close proximity few common types of functions elsewhere controversial statements and minuteness, they come into view as similar though not same.^[8]

In *Charaka Samhita* the word *Sira*, *Dhamani*, *Nadi*, *Sarirachiddra* etc these are the various terms used to describe structural and functional aspect of *Srotas* in broad aspect. Such as the word *Sira* denotes its *Sarana*(continuous motion) function, the word *Dhamani* denotes its *Dhamanaat* function which means pulsations are present and they possess lumen inside, the word *Nadi* denotes its duct like structure, the word *Sarirachiddra* denotes as it is just like all spaces inside the body, it can be very minute and does the function of *Rasavahan* so termed as *Rasayani* and *Rasvahini*, It is like passage for various elements so termed as *Pantha* or *Marga*, It is residence of various elements(*Asthaye Dhatu*) so termed as *Sthana/ Asaya*.^[9] These words seem to be used as synonyms, yet they indicate different functions & structures. Though all of these body entities are defined & indicate one common function of conveyance of material from one place to another in living body, purpose of each space in body seems to be different. So all these above terms can be categorise under single term called *Srotas*. It can be prove by the commentary of *Acharya Dalhana* that all the spaces in the human body formed by the *Akasha* entitled with synonomys as *Sira*, *Dhamani*, *Marga*, *Kham*, *Dhamani*, *Nadi*, and *Ashaya* etc.^[10]

Genesis of Srotas

The *Sroto Utpatti* takes place in intrauterine life, when *Vayu Mahabhuta* along with *Pitta Dosh*a differentiates; demarcation of channels takes place in which various body entities take their origin.^[11]

DISCUSSION

Discription of *Asthi Dhatu* and *Asthivaha Srotas*

According to *Acharya Sushruta* the state of health is defined as equilibrium of *Dosha*, *Agni*, *Dhatu*, *Malakriya* and well-being of soul, senses and mental faculty.^[12] The etymology of *Dhatu* is mentioned as *Deha Dharan*. The state of equilibrium of *Dhatu* is health and its disequilibrium is termed as disease. This disequilibrium may either be *Vridhhi* or *Kshaye*. And among the *Sapt Dhatu*, *Asthi Dhatu* is blessed with the function of *Sharira Dharana* which gives shape to the human body and protects the vital organs.^[13] *Asthi* is the supporting props for the *Mamsa*, *Sira* and *Snayu* etc. These structures depend and tied on to the bones, and hence do not fall and degenerate.^[14] The *Asthi Dhatu* gets the nourishment or depletion from their specific *Srotas* as any organ cannot be maintained or vitiated without their *Srotas*.^[15] *Asthi Dhatu* forming osseous tissue such as calcium, magnesium, phosphorus called *Poshak Asthi* that flows through the *Asthivaha Srotas* and nourishes the *Sthayee Asthi Dhatu*.^[16] *Asthivaha Srotas* (channels carrying osseous tissue) get vitiated due to exercise involving excessive irritation and rubbing of bones and intake of *Vata* provoking food and may leads to state of dis-equilibrium of the *Dhatu*s which may either be *Vridhi* or *Kshaya*.^[17] *Srotodushti* can be of 4 types.^[18]

1. *Atipravritti*(increase of the flow of the contents of the channels)
2. *Sanga*(decrease of the flow of the contents of the channels)
3. *Siranaam Granthi* (appearance of nodules in the channels)
4. *Vimarggamanam* (Diversion of the flow of the contents to improper channels)

The set of channels is apparently described as the major seat of diseases which can be clinically examined in a patient by the physician for the diagnostic purpose. Keeping this in mind ancient Seers had explained the causes and symptoms of *Sroto Dushti* alongwith their line of treatment. The *Asthivaha Sroto Dushti Nidan* (causative factors) are mentioned by *Acharya Charaka* as due to exercises involving excessive irritation and rubbing of bones, intake of *Vata* provoking food.^[19] All these etiological factors are responsible for *Vata Vridhhi* as well which further leads to *Asthi Kashaya* on the principle of *Ashraya- Ashrayi Bhava*. The causative factors responsible for *Asthi Kshaya* are not mentioned separately in the texts. However, one should asses the etiological factors for *Asthi Kshaya* on the principle of *Ashraya-Ashrayi Bhava*. In this context *Acharaya Vaghbhatta* explains that *Asthi* is the main seat of *Vata* and increase or decrease of *Asthi* and *Vata* are inversely proportional to each other. Hence the factors causing *Vata Vridhhi* (increase) will cause *Asthi*

Kshaya(decrease).^[20] And also it is mentioned that one of the etiological factor for *Asthivaha Sroto Dusti* is *Vata* provoking food.^[21] So we can logically say that that Etiological factors of *Asthivaha Sroto Dusti* and *Asthi Kshaya* will be as same as etiological factors of *Vata Vriddhi*. Etiological factors that increases *Vata* are as follows.^[22]

| | |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dietary | Due to rough, cold, little and light food, excessive intake of dry vegetables, dry meat, pungent bitter, Astringent substances, fasting, dieting, irregular dietary habits |
| Lifestyle | Excessive coitus, and vigils, excessive movements such as leaping, jumping and physical exercise, uncomfortable bed and seat, day sleep, suppression of urges, injury in vital parts, falling down from elephants, horses, and other fast vehicles. |
| <i>Mansik Nidaan</i> (Mental causes) | Excessive emaciation due to anxiety, grief, anger, fear and illness |
| Others | Faulty therapeutic management, letting of excess of blood, <i>Dosha</i> , <i>Dhatu</i> and <i>Mala</i> , Overuse of <i>Panchkarma</i> , <i>Amadosha</i> (indigested food), Wasting of Body <i>Dhatu</i> . |

2. *Asthivaha Sroto Dushti Lakshan* (symptoms)

The symptoms produced in *Dushti* of Particular *Dhatu* will be same for the *Dushti* of *Srotas* of that particular *Dhatu*.^[23] So *Asthivaha Sroto Dushti Lakshan* (symptoms) will be same as *Asthi Dhatu Dusti Lakshan* and mentioned as –*Adhyasthi*, *Adhidanta*, *Dantabheda*, *Asthi Shula*, discolouration, abnormality in hairs of head, body hairs, nails, beards- moustaches.^[24]

The similar symptoms are also mentioned in *Asthi Kshaya* like falling of hairs, nails, beards and moustaches and teeth, fatigue and laxity of joints.^[25] According to *Acharya Vagbhatta* there will be pain in bones and falling of teeth, hairs, nails along with their brittleness and dryness due to *Asthi Kshaya*.^[26] By this we can conclude that due to any deformity in *Asthi Dhatu* or *Asthi Vaha Srotas* will leads to many undesirable effects in the body. Keeping in mind the importance of *Srotas* in the normal functioning of human body as their *Dushti* plays an important role in the pathogenesis of diseases. Ancient seers had mentioned the line of treatment of each and every *Srotas*. The basic line of treatment of *Asthi Ashrita Vyadhi* is mentioned as use of *Panchkarma* procedures especially *Basti* which contains *Kshira*, *Ghrita* & *Tikta Dravya*.^[27] It can be understood logically by identifying the basis of determination of their *Moolsthana* & *Asraya-Asrayi Bhava*.

1. Justification of line of treatment of *Asthi Ashrita Vyadhi* considering the *Mulasthan*.

Following points have been mentioned in our classics by which we can logically understand the basis of considering the *Moolasthan* of each *Srotas*, are as follows;-

1. Utpatti Sthan- Chakrapani has described Mulam as- “Mulamiti Prabhava Sthanam”^[28] so it can be related with origin.
2. Sangraha Sthana (related with storage function)
3. Vahana Sthana- Acharya Charaka defined Srotas as “.....Parinamapdyamananam Dhatunaamabhivhini Bhavantyanenarthen”^[29] so it can be correlated with conduction function.
4. Chikitsatmak Drishtikon (related with clinical point of view)
5. Naidanic Drishtikon (related with diagnostic point of view)

Medo and *Jaghan* have been considered as *Mulaasthan* of *Asthivaha Srotas*.^[30] Explanation of *Medomulam* - According to the *Dhatu Poshannyaya*, the origin of *Asthi Dhatu* takes place by the action of *Asthi Dhatavangni* on *Asthiposhaka Ansha* which is formed at the time of *Medo Dhatu Utpatti*. According to this, each *Dhatu* (tissue element) has two fractions, one of which is *Prasad Bhaag* (essence product) and another is *Kitta Bhaag* (waste product) and again the *Prasad Bhaag* has two components one is responsible for formation of corresponding *Dhatu* i.e, *Meda* called *Poshak* and another is responsible for formation of succeeding *Dhatu* i.e, *Asthi* called *Poshya (SthayeDhatu)* by the action of *Asthi Dhatavangni* on *Asthi Poshaka Ansha* of *Medo Dhatu*.^[31] Hence from origin point of view, *Medo* is justified as a *Mulasthan* of *Asthi Vaha Srotas*.

While the *Jaghan* region as a *Mulasthan* can be understand on the basis of diagnostic as well as a clinical point of view. In old age, features of vitiation of *Asthivaha Srotas* primarily seen in the same region i.e, *Jaghan* such as fractures of the neck of the femur are more common and frequent in old age.^[32] According to *Ashraye-Ashrayi* principle *Asthi Kashay* occurs due to Vitiation of *Vata* and management of disorders of vitiated *Vata* is *Basti Karma*. As *Basti Karma* is mentioned as *Ardha Chikitsa* (constitutes 50% of whole management) among various *Panchakarma* procedures in *Kaye Chikitsa* (medicine field) 33. The procedure can be successfully done with the support of whole hip region.

Dosa, *Dhatu* and *Mala* are intimately related to each other. Three *Dosha* are *Asrayi* and they reside in *Dhatu* and *Mala*. The *Vata* resides in *Asthi*, *Pitta* resides in *Sweda* and *Rakta* and *Kapha* resides in remaining *Dhatu*. Hence anyhow increase or decrease in *Asraya* too leads to increase or decrease of *Asrayi*. Both effects each other and it is known as *Asraya-Asrayi*

Bhava. Due to this feature the drug that increases or decreases the *Asraya*(residence) also increases or decreases its *Asrayi* (content).But there is one exception in case of *Asthi* and *Vata*. Generally *Tarpana* (Satiating by food) leads to growth occurs in body and this growth is *Kapha* while *Apatarpana* (unsatiating food) produces emaciation and is caused by *Vata*, hence the disorders arisen due to increase or decrease should be treated by *Langhana* (fasting) and *Brmhana* (nourishing) therapies respectively.^[34]

Therefore to decrease or increase, the drugs and therapies should be administered properly according to this principle. This treatment principle of *Asraya-Asrayi(Adhar –Adhaye) Bhava* does not apply in case of *Asthi* and *Vata*, so it is an exception to this. Disorders caused by *Vata* should be treated in opposite manner.^[35]*Asthi Khsyay Vikara* can be treated by treating vitiated *Vaat*. For vitiated *Vaat Dosh*, *Basti Karma* considered as the most effective treatment *Acharya Charak* clearly mentioned the *Basti Karma* for the treatment of *Asthi Ashrit* diseases and it constitutes 50% of whole management.

Explanation

In case of *Asthi Kshaya*, medicated milk and *Ghrita* processed with *Tikta Dravya* and *Tikta Basti* is indicated by both *Acharya Charaka* and *Vagbhata*. As *Asthi Kshaya* occurs due to vitiated *Vata* because of *Asraye-Asrayi Bhaav* and *Tikta Dravya* processed with- milk, *Ghrita* and *Basti* is indicated. But if we understand this, logically it is not justified, as all *Tikta Dravya* are responsible for Vitiating of *Vata*. In this context, in *Sarvang Sundari* commentary by *Acharya Arundatta* he explained that the *Dravya* having *Snigdha* (unctuous) and *Shoshan* properties should be used in *Asthi Kshaya Vikara* as they will produce *Kharatva* (roughness) properties in *Asthi Dhatu* combinely. And as a result there will be increase of *Asthi Dhatu* due to the *Khara Guna* of *Asthi* itself. But there is no single *Dravya* having both properties of *Snigdha* and *Shoshan*. For having this property both milk and *Ghrita* processed with *Tikta Dravya* should be used due to their *Khara* properties. In this way the use of the combination of *Tikta Dravya* processe, d *Kshira* & *Ghrita* justified in *Asthi Kshayaj Vikar* for *Asthi Vardhan*.^[36]

CONCLUSION

The factors responsible for vitiating of *Vata* are also responsible for the vitiating of *Asthivaha Srotas*. Hence by understanding the concept behind the *Moola Sthana* of *Asthivaha Srotas* & its basic treatment principles we can treat many *Asthi Khasayaj Vikara* like *Sandhivata* (osteoporosis) & various *Dant, Nakh, Kesha* deformities.

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