Role of Srotas in Khalitya (Hair Fall) - A Clinical Study

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ABSTRACT

External appearance and Beauty take priority over intellectual achievement and simplicity. To appear honestly beautiful or handsome, noble and majestic is the dream of every human being. It also gives people self-confidence, personal style. A Person’s body without hair is seen like a tree without leaves. Hair plays a very crucial role not only in females but also in males. Hair fall in Ayurveda can be correlated with Khalitya. The incidence of Khalitya (Hair Fall) is increasing day by day. Srotas are the channels or inner transport system of the body which is the site for the activities of other bodily elements like Dosha, Dhathu, Mala, Agni, etc. Srotas are the channel or structure through which Sravanam Karma i.e., flowing, moving, oozing and permeation of different constituents and nutrients of the body takes place. Any disturbance at the level of Srotas either structurally or functionally leads to the genesis of diseases. Rasa, Rakta, Mamsa, Asthi, Majja and Swedavaha Srotas are by any way all involved in the Khalitya (Hair Fall). Statistical analysis showed that Khalitya (Hair Fall) was significantly related with involved Srotas viz. Rasa, Rakta, Mamsa, Asthi, Majja and Swedavaha.

Key words: Khalitya, Hair Fall, Srotas

INTRODUCTION

The human body is made up of innumerable Srotas (channels) which are responsible for performing all the physiological and functional activities. All Dosha, Dhathu and Mala perform their functional activities with the help of these Srotas. It has been a practice since long, to recognize all the Vyadhikshakha. The body is divided into small units depending upon their chief function or structure. Each unit comprises many Avayavas (Organs) and each organ is made up of innumerable Srotas. Ayurveda is the first medical system to announce and describe the existence of innumerable Srotas, within the human body. The term Srotas is derived from the root “Susravana” meaning to exude, to ooze, to flow, to filter. Those from which Sravana or flow of the body substances takes place or those through which the materials flow in the body are called Srotas.¹² Thus, they are the channels or pathways of the body through which the materials needed for tissue building, nutrition and other nutrients flow from one corner of the body to the other. In other words, materials are transported through these Srotas from the place of production to the place of need.

Srotas are the complex pathways or channels of the nervous system governed by Vayu for carrying out the functional and physiological activities of the human body.

The following synonyms of Srotas Sira (Vein), Dhamani (Artery), Rasayani (Lymphatics ducts), Rasavahini (capillary), Nadi (Tubular conduits), Pantha (Passages), Marga (Pathways, tracts), Sharirachidra (Body orifices), Ashaya (Repertories), Niketa (resorts), Sthana

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Srotas are structural as well as functional units of the body. Any alteration in its structural or functional forms leads to emergence of disease conditions through vitiation in terms of Dosha, Dhatu and Mala. For the holistic approach of management of disease, the complete knowledge of Srotas is a must for an Ayurveda physician. The net result of these all-pathological changes of Khalitya will make Srotorodha. Here the affected Srotas are Raktavaha and Romakupa. The Raktavaha Srotas in terms of Avarodha deprive the localized nutrition’s i.e., Rakta Prasadana Karma is affected. So, this Rakta Prakopa along with Romakupa Avrodha results in the arrest of the further growth of hair, leading to Khalitya.

AIM AND OBJECTIVES
To find out the role of Srotas in the manifestation of Khalitya (Hair Fall).

METHODOLOGY
This study was initially planned with a sample size of 400 (Ethical Clearance dated 7th September 2019), however, due to an outbreak of Covid -19 pandemic (in the year 2020) there was a lockdown in the city therefore sample size was rescheduled as 100 subjects with approval of IEC dated 29th December 2020. Once again in the year 2021 due to an outbreak of the Covid-19 pandemic second wave lockdown in the city, 50 patients were registered, having the clinical features as described in the text of dermatology from O.P.D. and I.P.D. of Pt. Khushilal Sharma Government Ayurveda Institute, Bhopal.

The specially designed proforma contains the detailed points related to Patients history, Physical examination, hair and scalp analysis and history about this, dietary history, lifestyle in present scenario and personal history, salt, salt with milk, Kshara, Virruddha Ahara, drug history, Vegadhara history, Prakriti assessment, involved Srotas assessment and male & female patient the scale accordingly Norwood-Hamilton scale, Ludwig Scale and Savin Scale of hair fall of randomly selected patient of Khalitya (Hair fall) as per Ayurveda and modern medicine, modified questionnaire based proforma. A proforma in the form of a validated questionnaire was used as a tool. The Proforma has been designed in such a way that each character described in the Ayurvedic classics has been transformed into simple questions maintaining the original idea intact.

Study design - Clinical Observational Study (Cross-Sectional Study)
Duration - 12 Months
Sample Technique - Purposive sampling technique
Collection of Data
The data was collected by using a prepared case record form. The collected data were summarized in appropriate tables and charts for easy statistical evaluation. The data was collected as per protocol.

Criteria for Diagnosis
- Sign and symptoms of Khalitya (Hair Fall) as described in Ayurveda as well as in modern medical science.
- For diagnosis of male patient Norwood – Hamilton scale
- For diagnosis of female patients Ludwig Scale and Savin Scale

Criteria for Selection of Patient
Inclusion Criteria
- Patients having the clinical features of hair fall occurring anywhere on the scalp as described in Ayurveda as well as Modern Medical Science.
- Patients of either sex aged between 21 to 50 years
- Patients were willing to give written informed consent for participation in the proposed research work.

Exclusion Criteria
- Patients were not fulfilling inclusion criteria.
- Patients with conditions of Alopecia areata like Alopecia totalis and Alopecia Universalis.
Alopecia due to other scalp disorders like Tineacapitis, Trichotillomania, Tilogen effluvium, and Traumatic alopecia.

Patients having endocrine disorders and other systemic disorders like syphilis and malignancy etc.

Hair loss due to chemotherapy.

Pregnant and Lactating women.

Criteria for Assessment

The patients were analyzed based on Etiological factors, clinical presentation, signs, and symptoms of Khalitya (Hair Fall).

Literature related to Khalitya (Hair Fall) as decrypted in Ayurveda as well as in modern medical science were reviewed and the collected data of etiological factors obtained from questionnaires of hair fall were corroborated concerning lifestyles of Khalitya (Hair Fall).

Obtained data were statistically analyzed and presented along with explanatory notes, discussion, and conclusion.

Scale

For this study, Norwood-Hamilton Scale for males and Ludwig & Savin Scale for females were adopted for patterns of Hair loss.

Literary Review

The functions of Srotas are transportation of biological fluids, physiological regulatory factors, nourishment of tissue, and biodiversity of medicaments on the integrity of the Srotas.

Annavaha Srotas

Amasaya and Vamaparswa have been considered as Moolasthan of Annavaha Srotas, including Annavaha Dhamani.\(^5\,^6\) Annavaha Dhamani plays vital role in the Preenan Karma of Rasa Dhatu by carrying Paramukshma Tejobhuta, properly digested, Panchbhaunetic Ahararasa to whole of body. Amasaya is the storage site of the Panchbhaunetic Anna and along with the Vamaparshwa.

Rasavaha Srotas

Hridaya and Dasa Dhamani have been considered as Moolasthan of Rasavaha Srotas.\(^5\) Hridaya is organ heart which is situated in the middle mediastinum of thorax and pumps the blood along with Rasa Dhatu throughout the body continuously. Hridaya works as storage and pumping action of Rasa Dhatu, after that Dasa Dhamani transports that Rasa Dhatu which is pure minutest essence of properly digested food through all corners of body.

Raktavaha Srotas

Yakrit and Pliha are considered as Moolasthan of Raktavaha Srotas, Raktavaha Dhamani are also considered.\(^5\,^6\) Origin of Yakrit and Pliha takes place from Šonit (Rakta) during embryonic development,\(^8\) after birth for particular time period, production of Rakta takes place in Yakrit. Raktavaha Dhamani conducts the blood after attaining red colour,\(^7\) throughout all corners of the body.

Asthivaha Srotas

Meda and Jaghan have been considered as Moolasthan of Asthivaha Srotas.\(^5\) According to Dhatuposananyaya, the origin of Asthi Dhatu takes place on account of the specific action of Asthidhatvagni and Asthiposhkanśa which is formed at the time of Medodhatu Utpatti. Entire hip region can be considered as a Moolasthan mention Jaghan region.

Majjavaha Srotas

Asthi and Sandhi have been considered as Moolasthan of Majjavaha Srotas.\(^5\) Majja is primarily found in long bones.\(^9\) Bone marrow occupies the cavities of the bones.

Svedavaha Srotas

Medomoola and Lomakoop have been considered as Moolasthan for this Srotas.\(^8\) Production of Sveda takes place in the form of Mala of Meda Dhatu.\(^10\) Lomakoop is Avirbhav Sthan of Sveda and through that Sveda is excreted out of body.
RESULTS

Assessment of Involved Srotas

In Anna Vaha Srotas, (70%) Stupor (Tandra), (58%) Weakness, (52%) Anorexia (Aruchi), (48%) Heaviness in Abdomen, (48%) Irregular bowel habits. In Rasa Vaha Srotas, (76%) Body ache (Angamarda), (54%) Anorexia (Aruchi), (54%) Drowsiness (Tandra), (48%) Weakness (Krista), (44%) Diminished Desire to Eat (Ashraddha), (44%) Heaviness (Gaurav). In AsthiVahaSrotas, All Patients were having hair defect of Hair (Kesha, Loma, Nakha, and Samshru Vikara), (50%) Pain in bone (Asthishoola). In Majjovaha Srotas, (46%) Eczema of the Scalp (Arunsiik). In Purisha Vaha Srotas, (76%) Constipation (Vibandha), (74%) Distention of Abdomen, (72%) Difficulty in Defecation, (64%) Pain during Defecation of Stool, (60%) Glandular Stool (Atigranthita Mala). In Sweda Vaha Srotas (58%) Loss of Perspiration (Aswedana), (42%) Roughness of the Skin (Parushya). After assessment of Srotas, we find that mainly Annavaha, Rasavaha, Purishvaha and Asthivaha Srotas are involved in manifestation of Khalitya.
DISCUSSION

In the Indian System of Medicine, the importance of Srotas is given for every Murthiman Bhavas. Srotas are the channels different from Sira and Dhamani, which carry nutrients to the body organs and are widely spread all over the body. It also carries waste materials for the excretion from the body. Without Srotas, the physiological functions of the human body will not be possible. Unobstructed Srotas allow manufacture of new tissues and proper flow of nutrients and waste materials. Impaired functions of Srotas lead to stagnation of Dosha, Dhatu and Mala in the different Srotas of the respective Dhatu. Hence, improper Ahara leads to the Rasavaha Srotas Dushti. Once the Srotas become abnormal, it brings abnormality in Dhatu and transportation will hamper the required destination. The improper diet and faulty lifestyle due to hampering of Agni, aggravates the Dosha. Any imbalance in the Srotas causes disease, so for the proper development of the human body, a proper functioning of Srotas is a must.

Anna Vaha Srotas

70% Patients were having Stupor (Tandra), 58% Patients were having Weakness, 52% Patients were having Anorexia (Aruchi), 48% - 48% Patients were having Heaviness in Abdomen and Irregular Bowel Habits and 28% - 28% Patients were having Vomiting Sensation and Diminished Desire to Eat (Ananabilasha). On the basis of dominant character Dushti in this Srotas “Vaiguanyat Pawakasya Cha” means disturbance in Agni and as in dietary habits mostly patients were Samshana type and Mandagni both are causative factors of Annavah Srotodushti. It hampers the transportation of food nutrients in the digestive tract. Symptoms of Tandra, Aruchi, aggravates Kapha, it causes Aghanmudy and ‘Rogah Serveapi Mandagni’. This aggravates Kapha, hampers the Annavaha Srotodushti and may lead to Khalitya.

Rasa Vaha Srotas

76% Patients were having Body ache (Angmard), 54% Patients were having Anorexia (Aruchi), 54% Patients were having Drowsiness (Tandra), 48% Patients were having Weakness (Krista), 44% Patients were having Diminished Desire to Eat (Ashraddha), 44% Patients were having Heaviness (Gauradha), 38% Patients were having Fever (Jwara), 26% Patients were having Darkness in Front of Eyes (Tama), 26% Patients were having Nausea (Hrilasa) and 14% Patients were having and Distaste in Mouth (Mukhvarasya). On the basis of dominant character Dushti in this Srotas ‘Chintyanam cha atitchintnata’ means stress level were mostly found, Samshana dietary habits, Guru Sheeta, AtisnigdhaAhara taking in diet cause hamper the Rasavaha Srotas and disturbed its Moola Amashaya & Annavahini Dhamni leads to several diseases may be as Khalitya. Heavy foods take a longer time for digestion and Agni must work for a prolonged period to digest, it may because Agni Dushti. Abhisanyadhi Ahara is Srotorodhakara as they are Pichchhila and Guru in nature and hence it blocks the minute channels and produces Ama which causes Srotodusti and further leads to other Srotodushti ultimately leads to several diseases.

Asthi Vaha Srotas

All Patients were having defect of hair (Kesha, Loma, Nakha, and Samshru Vikara), 50% Patients were having Pain in Bone (Asthishoolaa), 22% Patient were having Toothache (Dantashoola), 6% Patients were having Hypertrophy of Bone (Adhyaasthi) and 2% were having Redundant Tooth (Adhidanta). All patients were having AsthivahaSrotas as the Kesha are the Mala of the Asthi Dhatu. Ashthi is the seat of Vata. When a patient takes Nidana like Vatavardhaka Aahara (Atiruksha, Atisheeta,) Vatavardhaka Vihara (Ratri Jagra), then Vata gets aggravated. This aggravates Vata and hampers the Asthivaha Srotodushti and may lead to Khalitya.

Majja Vaha Srotas

46% Patients were having Eczema of the Scalp (Arunsika), 26% Patients were having Pain in the Interphalangeal Joint (Parva Shoola) and 8% - 8% Patients were having Vertigo/Giddiness (Bhrama) and Fainting (Moorcha).

Purishavaha Srotas

76% Patients were having Constipation (Vibhanda), 74% Patients were having Distention of Abdomen, 72%
Patients were having Difficulty in Defecation, 64% Patients were having Pain During Defecation of Stool, 60% Patients were having Glandular Stool (Atigranthita Mala), 36% Patients were having Excessive Belching (Atiudgara), 22% Patients were having Nausea, 10% Patients were having Bleeding Per Anus With Pain And Burning, 6% Patients were having Large Quantity of Stool and 2% Patients were having Watery Stool (Atidrava Mala). On the basis of dominant character Dushti in this Srotas may be Ajirna, Adhyasana, Durbalagni and suppression of Adharniya Vega are described as a causative factor of Purush Vaha Srotas Dushti, Vibandha (Malsanga) which found in this study, is mainly due to Ama as symptoms of distension of abdomen and it obstructed Purishavaha Srotas, which altered normal function of metabolism leads to may be as Khalitya.

Sweda Vaha Srotas

58% Patients were having Loss of Perspiration (Aswedana), 42% % Patients were having Roughness of The Skin (Parushya), 34% Patients were having Thrill (Lomarsha), 24% Patients were having Profuse Sweating (AtiSwedana) and 12% Patients were having Burning Sensation in The Body (Angaparidaha). On the basis of dominant character Dushti in these Srotas may be Krodha, Shoka, Sheeta and Ushna Ahara taking diet in orderly, hampering the Swedavaha Srotas and altering the Loomkoopa leads to Khalitya.

Conclusion

Hence in view of Roga Nidan, and Chikitsa, a detailed & clear knowledge of Srotasdushti become very much necessary as it is responsible for carrying and transformation of tissue elements by maintaining the health. Structurally, the Srotas are the hollow channels originating from the root space, spread within the whole body to act as a transport system for the fulfillment of nutritional needs of organism and to get rid of the end results of metabolism from the body. Ayurveda postulates that Dosh, Dhatu, Mala, Srotas and Agni are the Vyadhi Ghatakas (components of the disease process) each one having its definite role, to play in the causation of the disease. Ama has been defined as a condition in which the first Dhatu i.e., Rasa is not properly formed due to Mandagni, leading to the impairment of primarily Rasa Vahasrotas and later on it affects all Srotas. It may affect all the Doshas, Dushyas, Dhatu etc. In this study in Asthi Vaha only one symptom is 100%, Annvaha, Rasvaha and Purishavaha are mostly symptoms.

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