

REVIEW OF KARSHYA W.S.R. TO UNDERNUTRITION

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ABSTRACT

Karshya is a clinical condition which can be correlated with Undernutrition. In this disease the body gets emaciated gradually. It is also an *ApatarpanjanyaVyadhi*. Among the eight socially undesirable Persons (*purush*) as mentioned by *CharakKarshya* has been categorized under nutritional deficiency. *Rukshaannapan, Langhana, Promitasan* etc. are the main causative factors of *Karshya*. They all causes aggravation of *Vayu* alteration of *Agni* leads to insufficient production of *Rasa dhatu* along with other *Dhatus* chronologically. *SushkaSphigaUdarGriba* etc. are the main clinical features of *Karshya* which can be clinically assessed by Anthropometric measurement like BMI, MUAC, Waist and Hip circumference. Proper diagnosis and treatment is very much necessary in *Karshya* because untreated cases are prone to develop *Pleeha, Kas, Kshaya, Swas, Gulma* etc. diseases which may become life threatening at any time. In Modern perspective Undernutrition is an outcome of insufficient food intake and repeated infectious disease. This article explains the Ayurvedic view of nutritional disorder which will help in diagnosis as well as proper management of the disease.

Keywords: *Karshya*, Undernutrition, *Apatarpan*

INTRODUCTION

Karshya is an *Aptarpanjanyaavyadhi*. It is a disease in which the body get emaciated, gradually. According to *CharakKarshya* is described under eight despicable persons (*AstauNinditiyaPurush*)⁽¹⁾. Ultimately the patients of *Karshya* are subjected to *Balahani* (loss of immunity) and proceed towards death⁽²⁾. These eight physical states are described considering its unwanted clinical and social complications. These undesirable diseases are hereditary, hormonal, and nutritional in origin.

In course of time following the untried exploration of ancient physician, afterward the social or community medicine is developed. An approach is made to prevent and treat the disease that is based on the study of human heredity, environmental social structure and values. Among the eight socially undesirable persons as mentioned by *Charak, Karshya* has been categorised under nutritional deficiency. Aetiology aetiopathogenesis, sign and symptoms and treatment of *Karshya* is described in

detail in *CharakSamhita, Sutrasthan* 21st Chapter to combat *Karshya* and sustain health in community therefore in nation.

Altered function of *Vayu* and *Agni* leads to insufficient production of *Rasa Dhatu*. *Upososhan* of *Rasa Dhatu* takes place leading to *Dhatuk haya* chronologically. Hence the patient of *Karshya* suffers from indigestion, malabsorption and defective metabolism. *Meda* and *Mamsadhatuk haya* at microscopic level, ultimately express its symptoms macroscopically. These sequences are very much correlated to under nutrition.

Under nutrition is defined as the outcome of insufficient food intake Undernutrition is defined as the outcome of insufficient food intake and repeated infectious diseases. It includes being under weight and height from one's age (stunted growth) with associated vitamin and mineral deficiency (UNICEF). According to FAO reports there are about 460 million, i.e., 15 percent of the world population excluding China who are malnourished, of which about 300 million live in South Asia constituting one third of the population. Globally priority is given to malnourished persons as kwashiorkor, marasmus, xerophthalmia, nutritional anaemia, endemic goitre, morbidity in young children, retarded physical and mental growth takes place as a squeal.

AIMS AND OBJECTIVE

Hence the study is aimed on—

(i) Compilation of *Karshyaroga* from various ancient literatures and its correlation with under nutrition

Conceptual part:

Definition and etymology of *Karshya* :

Derivation of the term *k i a / kar ya*

The term *Karshya* is clinically related to the word *Krishha*. *Krishha* is a constitutional state in the human beings as described in the ancient literatures. It is stated as an undesirable physical constitution.

Literally derivation of this two term *krisa* and *Karshya* are following:

- *K is* – To become lean and thin, become emaciated or feeble, to wane, attenuate, emaciate, keep short of food⁽³⁾
- *K a – tanukarane* ... alpesuk me

So the above mentioned derivations signify that the term *Karshya* is derived from the word *K isha* which means to keep short, to become lean, emaciated, to lessen, diminished, alternate, weak, feeble, spare, small, little, minute, insignificant.

The word *K a* is derived from “*k atanukarane*” *dhatu* which means *Alpa, Suk hma*. Literally the small substances or particles are denoted as *Krishha*.

Definition of *Karshya*

The commentator *Acharya Dalhan* has explained the meaning of *Ati Karshya* while commentating on the *Susruta* verse as—

“*Soatik i aityanenopachayalak anbal bh bod ar itah*”⁽⁴⁾

--So it literally means reduction in *Upachaya, Rupa* and *Bala*.

Nidan of Karshya

Aharaja Nidan:

- *Kashaya rasa atiseban*
- *Langhana*
- *Promitasan*
- *Rukshaannapan*
- *Vatalaahara*

ViharajaNidan

- *Atisnanabhayas*
- *AtiVyayama*
- *AtiVyavaya*
- *Dhyana*
- *Nidra Nigraha*
- *KshudaNigraha*
- *Pipasa Nigraha*
- *RukshaUdvartan*

ManasikNidan

- *Bhaya*
- *Chinta*
- *Krodh*
- *Shok*

Evaluation of NidanSamprapti in Karshya:

Rukshannapan

Rukshaguna causes *Kharatwa* (roughness), *Vaisadya* (non-sliminess), *Roukshwa* (dryness). The substances which are consisted of *Roukshwa*, *Laghu*, *Khara*, *Tikshna*, *Ushna*, *Sthira*, *Apicchila*, are causing *Roukshan Karma*

Rukshaannapan is constituted of intake of *katu*(pungent), *tikta* (bitter), *kashaya* (astringent) substances oil cakes of mustard, tila, honey, etc⁽⁵⁾

Rukshaguna is predominant by *Vayu*. *Vayuis* consisted of *Suksma*, *Ruksha*, *Khara*, *Shishir*, *Laghu*, *Visadguna*. Due to these qualities it causes *Laghaba*, *Glapana*, *Virukshan*, and *Vicharan*. The resultant action of these mentioned⁽⁶⁾ qualities denote the absolute cellular degeneration and decrease secretion of hormone.

The root of *Pranavahasrota* is *Hridaya* and *Mahasrota*. *Pranvahasrota* is mainly *VayurVisi taSrota* where directly respiration taken place⁽⁷⁾. As *Pranvahasrota* get affected therefore *Kasa*, *K haya*, *Swas*, etc. occurs in the tertiary stage of *Karshya*⁽⁸⁾

Langhana

Langhana is a process which reduce the body and the substances which has been consisted of *Laghu*, *Ushna*, *Tik hna*, *Vi ada*, *Ruksha*, *Kshara*, *Sara*, *Kothinaguna* (light, hot, sharp, non-slimy, rough, subtle, respectively). *Langhana* is of 10 types. Four types *Samsuddhi* (elimination therapy – *Vaman*, *Virechan*, *Niruha* and *Nasya*), *Pipasa* (control of thirst), *Marut* and *Atap Seban* (exposure to wind and sun), *Pachan* (digestion stimulates), *Upabas* (fasting), *Vyayama* (physical exercise).⁽⁹⁾

Langhana therapy reduce the strength of the patient due to aggravation of *Vayu*⁽¹⁰⁾. *Vayu* gets aggravated by the destruction of the *Dhatu* and also by the obstruction of the channels of circulation⁽¹¹⁾. *Langhana* aggravate the destruction of *Dhatu*s. *Trishnanipirana* (Thirst), *Atapseban* (exposure to sun), *AtiVyayama* (excessive physical exercise), directly afflicts *Ambubahasrota*, *Raktavahasrota*, *Asthivahasrota* and *Swedavahasrota* respectively. The root of *Ambubahasrota* is *Talu* and *Kloma*, *Raktavahasrota* is *Yakrit* and *pleeha*, *Asthivahasrota* is *Meda* and *Jaghana*, *Swedavahasrota* is *Meda* and *Lomakupa*⁽¹²⁾. All these *Srotas* get affected in *Karshya* resulting *K haya*, *Pleehavridhi*, *Twakasthirosh*, *SushkaSphigaUdarGriba* respectively⁽¹³⁾

Pramitasan

For the maintenance of positive health, adequate quantity of ingested food plays an important role in construction and nourishment of body, but the inadequate quantity of food is termed as *Pramitasan*. The quantity of food is depended upon the power of digestion, absorption, and metabolism. Subsequently it varies according to the season and age, of an individual. Quantity of food is categorised as the food as a whole and the food of different ingredients. If the food as a whole is taken according to the prescribed quantity but its ingredients has different taste like sweet, sour, etc. are not in prescribed ratio, then the equilibrium of *Dhatu*s and *Dosh*as get definitely disturbed due to imbalance in the ratio of composing *rasa* and consecutively digestion of food will also be affected. It is also a type of *Pramitasan*. Quality is also very important. Quality of food is of two types - heavy food and light food. Light foods are dominated by qualities of *Vayu* and *Agni Mahabhuta*, and by nature it stimulates the appetite.

These light foods are very easy to digest on contrary to heavy foods which are dominated by the qualities of *Prithvi* and *JalaMahabhuta*. These types of food are difficult to digest. The light food in minimum quantity or inadequate quantity aggravates *Vayu* resulting in depletion of *Dhatu*s. The regular intake of heavy articles such as *Bol-lura* (dried meat), *Sushkasak* (dried leafy vegetables), *Saluk* (lotus rhizome), *Visani* (lotus stalk), *Kurchika* (boiled butter milk), *Kilat* (inspired milk), *Soukar* (pork), *Gabyamamsa* (beef), and *mas* (black gram), are contraindicated in maintenance of good health⁽¹⁴⁾. The magnitude of *Pramitasan* in terms of inadequate quantity not only represent the minimum quantity but also the improper quality of food

articles which are not easily digestible, resulting the suppression of *Agni* and ignite *Vayu*, which ultimately affect digestion, absorption and metabolism at G.I. tract level resulting in *Rasa k haya* and *Karshya*.

Kriyatiyog

The term *Kriyatiyog* is implied here in respect to the administration of *Vamana*, *Virechana*, *Niruha-anuvasan*, *nasya* and *sirovirachan* in excess. The excessive administrative of *Vaman* leads to the manifestation of *Trishna* (thirst), *Moha*, *Murcha*, *Anilkopa*, *Nidrahani*, *Balahani* etc. Subsequently excessive administration of *Virechana* causes *Kapha* and *Pitta kshaya* which results *Anilkopa*, which causes *Suptata*, *Angamarda*, *Nidralpata*, *Balabhav*, *Tamapravesh*, *Unmad*, *Hikka*etc⁽¹⁵⁾ Excessive administration of *Niruhavasti* causes the sign and symptoms identical to that of due to excessive *Virechana*. This sign and symptom due to excessive administration of *Panchakarma* ultimately causes aggravation of *Vayu* in specific. The aggravated *Vayu* causes the depletion of *Dhatu*s in terms of pathogenesis of *Dhatukshaya* and cause *Karshya*.

Shoka

Shoka is a psychological phenomenon which signifies the miserable state causes due to death of the closest-relative. This condition leads to aggravation of *Vayu*.

VegaNidra Vinigraha

Forceful suppression of all the physical urges, specially the suppression of sleeping urge leads aggravation of *Vayu*, in specific⁽¹⁶⁾. *Pranavahasrota* gets affected due to suppression of urges with manifestation of severe breathing difficulty. Night awakening (*Ratri-*

jagaran) causes roughness in the body as result of the aggravated *Vayu*, (with the manifestation of *Sushka-Sphiga-Udara-Griba-Dhamani-Jala-Santato*).

RukshmaUdvartan

Udvartanis done after *Abhyanga* for the external purification of the body⁽¹⁷⁾. This action naturally mitigates *Kaphahara*, *Medaprabhayanam*. Excessive *Udvartan* or massaging of the body with *RukshaDravya* causes excess *MedaPravilayan* (fat depletion) resulting *Dhamani-jala-santata*.

SnanAbyas

Snan improves the physical and mental strength of the body but on other hand it is strictly contraindicated in *ArditaRoga* which signifies that excessive *Snan* causes aggravation of *Vayu*.

Prak itirJvara

The term *prak iti* stands for “Beej” or hereditary. Heredity plays a prime role for *krisha*. Though apparently they are *Krisha* but significantly they do not present the sign and symptoms of *Krisha*, where as in case of accelerated biological aging due to hereditary causes presenting the absolute clinical features of *Karshya*.

Vikaranusaya

The diseases naturally cause *Karshya* in due course of time proceeds towards degeneration in different level at the site of pathogenesis.

Purvarupa of Karshya

Diseases are produced with some specific sign and symptoms and definitely by the cardinal signs, but at the time of the onset of

disease when *Doshas* get lodged in a specific site and *Dushya* is also vitiated the then prior to those manifestations some specific features are manifested and termed as *Purvarupa*. Therefore, *Purvarupa* is that which represent the forthcoming disease. In *KarshyaRoga* no such specific *Purvarupa* has been mentioned.

Rupa (Clinical features of Karshya)

- *Sushka, Sphiga, Udar, Griba* (Emaciated buttock, abdomen, neck region)
- *DhamanijalaSantato* (Prominent venous network)
- *TwakAsthiSesh* (Skin bone appearance)
- *SthulaParba* (Prominent joint)
- Patient can't tolerate
- *AtiVyayama* (excessive exercise)
- *KshutPipashaOushadha* (Hunger, Thirst, Medicines)
- *AtiShitaUshnamaithuna* (excessive cold, hot, sexual intercourse)

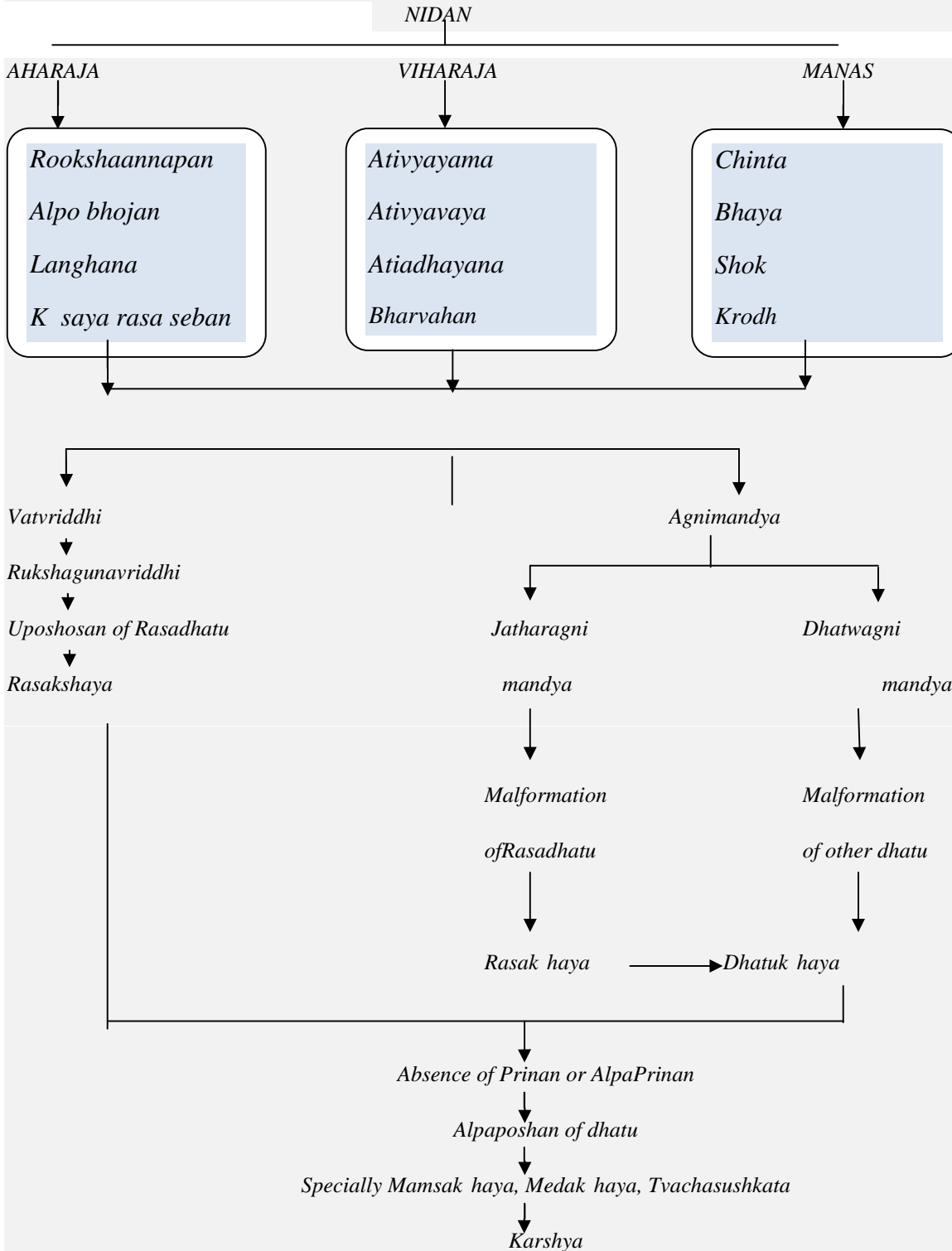
Samprapti:

The causative factors of *Karshya* aggravate *vayu* which ultimately vitiate the *Agni* causing *Agnimandya*, subsequently leading to formation of *Ama*. Following the absorption of *Ama* in the system from gastrointestinal tract the system treats the *Ama* as a toxic material. *Ama* migrates to the heart and spread through the rest of the body channels. *Ama* by the virtue of its quality of *Daurgandhatva, Picchilatva, Tantummatva, Guruta*, obstructs the minute vessels. Accordingly due to, movement of *Ama* the nutritive materials cannot reach their destination. Ultimately there is a sequence of malformation of chronological formation of *Dhatus*. Consumption of food that of no nutritive value is incapable to form *Raktadhatu*. Consequently the volume of blood depletes

and its function gets retarded, since nutritive nutrition is hampered and the degenerative

process leads to *Karshya*.

SCHEMATIC PRESENTATION OF KARSHYA



SampraptiGhatak:

- *Dosa - Vata*
- *Dusya - Rasa dhatu*
- *Agni- Mandagni*
- *Ama- formation of ama due to agnimandya*

- *Udvadhathan -Amasaya*
- *Srotas affected -Rasa vaha, raktavaha, medavaha, mamsavaha,*
- *Type of Srotodusti -Sanga*
- *Rogmarga - Abhyantarrogamarga*
- *Vyaktasthan -Sphiga, Udar, Uriba, Twak, Asthi*
- *Vyadhiprakar - Chirakari.*
- *Sadhyasadhyatwa - Kricchasadhya*

Upadrava of Karshya

The Karshya patients are prone to develop the following diseases like *Pleeha, Kas, Kshaya, Swas, Gulma, Arsha, Udar, Grahani.*

CHIKITSA SUTRA (PRINCIPLE OF MANAGEMENT):

1. *LaghuDravyaSantarpanChikitsa* that means light and nourishing diet should be administered in *KarshyaRogi*.⁽¹⁸⁾
2. In chronic state of *Karshya* the refreshing therapy should be administered slowly depending upon the physical constitution, power of digestion, *Doshas* vitiated, nature of therapy, dose, season and time of administration. For such patients, meat soup, milk and ghee of different animals, different types of bath, enema, massage and nourishing drinks are useful.

PATHYAPATHYA:

Pathya

Ahar:

Intake of freshly harvested rice, fresh wine, meat soup of domestic marshy aquatic animals, curd, ghee, milk, sugarcane, Sali rice, masa, wheat sugar candy preparations etc.

Vihar:

Sleep, joy, comfortable bed, contentment, tranquility of mind, abstinence from anxiety, sexual act and physical exercise, pleasant sight, regular oil massage, unctuous unction bath, use of scents and garlands, use of white apparel etc.

Ousadh:

1. Enema consisting of unctuous and sweet drugs, elimination of *Dosas* in time and administration of rejuvenating and aphrodisiac drugs.
2. *Payashya, Aswagandha, Salparni, Shatavari, Bala, Atibala, Nagbala,* etc. *Madhuradrugs* should be administered.

Apathya:

Intake of pungent, bitter and astringent substances, oilcake of mustard and til, honey, sexual indulgence, night awakening, excessive physical and mental exercise etc should be avoided in *Karshya*.

PROBLEM OF MALNUTRITION

Malnutrition has defined as a pathological state resulting from a relative or absolute deficiency or excess of one or more essential nutrients. It comprises four forms:-

- I. Undernutrition
- II. Overnutrition
- III. Imbalance
- IV. Specific deficiency

1. **UNDERNUTRITION**- This is the condition which results when insufficient food is eaten over an extended period of time. In extreme cases, it is called starvation.
2. **OVERNUTRITION**- This is the pathological state resulting from the consumption of excessive quantity of food over an extended period of time. The high incidence of obesity, atheroma and diabetes in attributed to over nutrition.
3. **IMBALANCE**- It is the pathological state resulting from a disproportion among essential nutrients with or without the absolute deficiency of any nutrients.
4. **SPECIFIC DEFICIENCY**- It is the pathological state resulting from a relative or absolute lack of an individual nutrient.

Definition of Under Nutrition

Undernutrition is defined as the outcome of insufficient food intake and repeated infectious disease. It includes being underweight for one’s age, too short for one’s age (stunted), dangerously thin for one’s height(wasted) and

Table 1: Showing the Classification of Malnutrition according to BMI (weight/hegith2)

BMI (kg/meter ²)	Classification
>30	Obese
25-30	Over Weight
<18.5	Moderate malnutrition
<16	Severe malnutrition

DISCUSSION

Thorough literally review reveals that in ancient classics *Karshya* has been categorized as an undesirable sociological condition. In these disease constitutional features of an individual is altered.

In *Charak Samhita*, the disease of *Karshya* is described in a view of nutritional deficiency. As *Charak* considered this condition as an un-

deficient in vitamins and mineral(micronutrient malnutrition) [UNICEF]. On other side it is defined as deficient bodily nutrition due to inadequate food intake or faulty assimilation.

Types of malnutrition ⁽¹⁹⁾

Malnutrition is a group of condition in children and adults generally related to poor quality or insufficient quantity of nutrient intake, absorption or utilization.

There are two major types of malnutrition:-

1. Protein energy malnutrition- resulting from deficiencies in any or all nutrients.
2. Micro nutrient deficiency disease- resulting from a deficiency of specific micronutrients.

Under nutrition can be assessed by Anthropometric measurements like BMI (weight in kgs/Height in meter²) mid upper arm circumference, Waist and Hip ratio.

desirable phenomenon, hence line of treatment and principle of management is advised as because of *Karshya* become susceptible to many other systemic diseases, like, *pleeha, Kas, K haya, Swas, Gulma, Arsha, Udar, Grahani. Karshya* should be treated as early as possible to combat these diseases *Charak* has described in detail about the disease *Karshya* in *Astonin-ditiyaAdhaya*.

Sushruta has also considered *Karshya* as a clinical state of under nutrition. The role of *rasa* in genesis of *Karshya* has been described. This sequence of chronological *Dhatuk haya*, *Ojak haya* and *Balak haya* is emphasized. This clinical condition is to be treated accordingly with classical therapies as mentioned. In context of *Karshya* *Dalhan* has mentioned the definition of *Karshya*. The concept of immunological deficiency due to *Dhatuk haya* is contributed. *NirantarBrimhan* has to be adopted for *krisadeha*.

In *AstangaHridayaKarshya* is mentioned as an adverse effect of *Langana*. Following *Sushruta*, administration of *Brimhan* therapy is also advised in *AstangaH idaya*.

In *KashyapSamhitaKarshya* is included in *VatajaRoga*. In treatment schedule *Brimhan* therapy is highlighted.

In *MadhavNidan* separate chapter regarding *Karshya* is not found, but the state of *Karshya* holds its great clinical importance almost in every aspects during description of various systemic diseases. So *Karshya* in *MadhavNidan* is described on *RogaLakshana* rather than individual *Roga*.

Sarangadhar has included *Karshya* in *NanatmajaVatavyadhi*.

In *BhavPrakashKarshya* has been depicted as a separate chapter. The *Nidan*, *Lakshana*, *Samprapti*, *Chikitsa* all are explained here.

In *YogaratanakarKarshyaroga* is mentioned in the *Medoroganidan*.

Rukshannapan, *Langhana*, *Promitasan*, *Kriyati yoga*, *Shok*, *Vegadharan*, *Nidranigraha*, *Ruksha udvartan*, *Atisnanabhayasa*, *Prak itijara*, *Ati Vyayama*, *Ati Vyavaya*, *Dhyana*, *Adhyana*, *AtiSeban of Kashaya rasa*,

Vatalaaharaseban, *Kshudanigraha*, *Pipashanigraha*, *Krodh and Vikaraanusaya* are the aetiological factors of *Karshya*. These factors have been categorized into dietary factor, behavioural factor, malpractices, mental factors and iatrogenic factor as described in disease review. All these factors favour aggravation of *Vayu* and formation. Aggravation of *Vayu* causes *Upososhan* of *Rasa dhatu* in both *Pachakagni* and *Dhatavagni* level. The exaggerated *Rukshaguna* of *Vayu*, *Ushnaguna* of *pitta* and loss of *Snigdha* of *Kapha* causes *Soshankarya* of *Rasa dhatu* in *Jatharagni* level. So *Rasa dhatu* is not formed properly. The main function of *Rasa dhatu* is *Tusti* and *Prinan* which means *Rasa dhatu* provides nutrition to onward *Dhatu*s. This function is hampered. Formation of *Ama* in *Dhatavagni* level hampers the ultimate absorption and metabolism of *Rasa dhatu*. Dysfunction of these *Vyanvayu* in *Karshya* causes defective transformation and circulation in metabolic activity phenomenon jointly causes alteration in digestion, absorption and metabolism in *Jatharagni* and *Dhatavagni* level, hence formation and nutrition of *Dhatu*s in chronological order is not maintained. Patient suffers in chronic *Agnimandya* and *Dhatuk haya*. This causes gross malnutrition in a patient of *Karshya*.

As a sequale of malnutrition there is loss of fibro muscular component in the extremities. Fat depletion, burning of fat causes loss of peripheral adipose tissue. The patient suffers from immunological deficiency and become susceptible to many diseases like *Pleeha*, *Kas*, *Swas*, *K haya*, *Gulma*, *Arsha*, *Udar*, *Grahani*, *Vataroga*, *Agnisad*, *Raktapitta* etc.

Table 2: Showing the conceptual correlation between *Karshya* and Undernutrition

<i>Karshya</i>	Under Nutrition
<i>Karshya</i> is considered as a disease	Under nutrition is a state of malnutrition.
Etiopathogenesis and treatment is described separately.	No specific pathogenesis is mentioned.
Mentioned as both <i>Lakshana</i> and <i>Roga</i> .	Symptoms of multidimensional factors.
Specific medicine along with dietic regimen is mentioned in classical text.	Importance is given on dietary regimen than specific medicine
<i>Karshya</i> is described with an approach to prevent several diseases like <i>Gulma</i> , <i>Arsha</i> , <i>Udar</i> , <i>Grahani</i> etc.	Malnutrition predisposes infection and infection to malnutrition.
Typical sign and symptoms are <i>SushkaSphiga</i> , <i>Udar</i> , <i>Griba</i> etc. are mentioned.	Measurement of BMI, MUAC, Waist Hip ratio etc are recommended by WHO as the universal tool

CONCLUSION

Karshya is a disease caused by nutritional deficiencies in which the body gets emaciated gradually. Mainly the gluteal region, abdomen and neck show gross bulk muscle loss and subcutaneous fat depletion. This condition is correlated with under nutrition.

The description of *Karshya* as a disease along with its diagnosis and treatment are available in classical text of Ayurveda .A systemic study of these conditions provide insight in to hazards of nutritional deficiency. And represent different aspects of nutritional deficiency and proper understanding of pathogenesis of condition provide valuable key for the effective management.

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