



STUDY OF MEDODHATVAGNI MANDYA IN MEDOROG W.S.R TO OBESITY

Dr. Sonali Bharat Pole*¹, Dr. Avinash M. Deshmukh² and Dr. Deepali J. Amale³

¹PG Scholar, Department of Rognidan Evam Vikrutividyan CSMSS Ayurved Mahavidyalaya, Aurangabad.

²Guide and Associate Professor Department of Rognidan Evam Vikrutividyan CSMSS Ayurved Mahavidyalaya, Aurangabad.

³HOD and Professor of Rognidan Evam Vikrutividyan CSMSS Ayurved Mahavidyalaya, Aurangabad.

*Corresponding Author: Dr. Sonali Bharat Pole

PG Scholar, Department of Rognidan Evam Vikrutividyan CSMSS Ayurved Mahavidyalaya, Aurangabad.

DOI: <https://doi.org/10.17605/OSF.IO/2B8GU>

Article Received on 17/12/2020

Article Revised on 07/01/2021

Article Accepted on 27/01/2021

ABSTRACT

Healthy and unhealthy state of a human being depends on normal and abnormal functional state of *Tridosha*, considering the physiological importance of *Dosha* in maintenance of homeostasis of the body *Tridosha* have been called as root (*Dosha Dhatu Mala Moolam hi Shariram*) of the body. All the functions of the body could be explained in terms of *Dosha*, *Dhatu* and *Mala*. In ayurveda, *sthaulya* has been described in all the literatures. *Acharaya charaka* has described *sthaulya purusha* among one of the *ashta nindita purusha*. *sthaulya* is caused due to *medovridhi* which includes abnormal and excessive accumulation of *medodhatu* in the body. person of every age and sex is suffering by this widely spread epidemic i.e. obesity. In Ayurveda, main cause is *dhatvagnimandya*. As per involvement of *dosha-dushya* the disease can be considered among *santarpanajanyavikara*. the major pathological factors behind the disease basically include *kaphavridhi*, *jathargnidushti*, *medodhatvagnimandhya* and *avarana of vata* which all finally leads to *amarupa medovridhi*.

KEYWORDS: *Medodhatu*, Obesity, *Sthaulyata*, *medodhatvagni*.

INTRODUCTION

Hence, *Vihara* and *Ahara Vidhi* can be included under the heading of lifestyle in Ayurveda. *Vihara* consists of conducts explained under the heading of *Dinacharya* (daily regimen), *Ritucharya* (seasonal regimen) and *Sadvritta* (behavioral regimen) and *Ahara Vidhi* (dietetic rules) consists of the conducts given under the heading of *Ahara Vidhi Vidhana* (codes of dietetics), *Bhojanottara Vidhi Vidhana* (conducts after meal) etc., which are described in detail in Ayurveda. Wrong dietary habits such as *Adhyashana* (eating after meal), *Vishamashana* (diet on irregular time and quantity), and wrong behavioral pattern such as *Vegadharana* (suppression of urges) leads to vitiation of *Doshas* independently or together causing *Agnimandya* (indigestion). In Ayurveda, it is believed that *Agnimandya* is the root cause for all the diseases such as *Prameha* and *Sthaulya*. In modern science also, it has been proved that there exists gut-brain-endocrine axis which involves ghrelin-leptin hormones, insulin and orexins. Disturbance in this axis leads to diseases such as obesity and diabetes mellitus which are among the top ten lifestyle disorders. The causes for these diseases are improper diet pattern, disturbed sleep pattern etc.

Type of Agni

A) *charak* has described agni in 13 types

- 1) *Jataragni*^[1]
- 2) *Bhutagni*^[5]
- 3) *Dhatvagni*^[7]

B) according to *shushruta* agni is divided into five types

- 1) *Pachakagni*
- 2) *Ranjakagni*
- 3) *alochakagni*
- 4) *Sadhakagni*
- 5) *Bhrajakagni*

C) *Vaghahat* described into different 18 types

- 1) *Bhutagni*^[5]
- 2) *Dhatvagni*^[7]
- 3) *Malagni*^[3]
- 4) *Dhoshagni*^[3]

D) *Sharagandhar* has described it into 5 types

- 1) *Pachak*
- 2) *Bhrajak*
- 3) *Ranjak*
- 4) *Alochak*
- 5) *Sadhak*

E) bhavmishra ha describe as vaghabhat and charak

1) Jatharagni

If jatharagni is proper, balance, healthy the other form of agni is control in equilibrium. Agni means fire in belly which govern the preliminary process of digestion before the food converted into a form in which it could be absorbed, utilized in various forms of body function in the form of nutrition and energy. Jatharagni divides food into sara (essence food) and kitta (waste product) in human body.

It again divided into four types

1) **vishmagni:** Here digestive fire is distributed by vata, cholera, dysentery, enlarged spleen, abdominal tumour are outcome of vishmagni.

2) **Tikshagni:** Here digestive fire is divided by pitta, in this case immunity against disease is good. Urinary disease, yellow skin, tuberculosis.

3) **Mandagni:** Here digestive fire is distributed by kapha. Cough, bronchial asthma

4) **Samagi:** Normal digestive fire with strong appetite

2) **Bhutagni:** present in basic element.

3) **Dhatvagni:** seven element tissue of body contain their own agni to metabolize nutrients supply to them through channel of circulation.

- 1) Rasagni in rasa dhatu
- 2) Raktagni in rakta dhatu
- 3) Mansagni in mans dhatu
- 4) Medagni in meda dhatu
- 5) asthyagni in asthi dhatu
- 6) majjagni in majja dhatu
- 7) shuktragni in shukra dhatu

symptoms of Jatharagni

- 1) *Ajeerna* (indigestion)
- 2) *Atilalarava* (hyper salivation),
- 3) *Aruchi* (dislike of food),
- 4) *Adhmana* (heaviness of abdomen),
- 5) *Vibandha* (constipation),
- 6) *Chardi* (vomiting)

Agni in nature: वायोःअग्निः। (तैत्तिरीय उपनिषद्)

Medodhatvagnimandya

Agni is responsible for all metabolic activities of the body. It is solely responsible for any increase or decrease of Doṣa, Dhātu or Mala. The vitiation of Agni has serious impact on health at various levels depending on type of Agni involved. When Agni is decreased, it will lead to various metabolic disorders at various levels and produces "Āma" i.e., Agni fails to convert the Vijātīya Dravyas into Sajātīya ones and the end products cannot be assimilated by the Dhātus. Such products will be dangerous to body and can cause signs and symptoms according to their presence at various physiological levels. If Agnimāndya is present at the level of

Jatharāgni only, then Āma is usually restricted to Koṣṭha. There will be no production of Āhāra Rasa & result will be Dhātu Kṣaya. If Agnimāndya is present at the level of Bhūtāgni, then Āma is restricted to Āhāra Rasa and this Āhāra Rasa which is improperly formed cannot be assimilated by Dhātus and results in Dhātukṣaya. If Agni Agni-māndya is present at the level of Dhātāvāgni, then the particular Dhātus cannot assimilate nutrients present in the circulating Āhāra Rasa or circulating Poṣaka Dhātu. So, such Poṣaka Dhātus will be accumulated in Āhāra Rasa in abnormal quantities and they may further get accumulated at abnormal sites. This sort of process can be called as Leenatwa of Āma in Dhātus. Such Leenatwa can cause a number of disorders but it should always be kept in mind that once Jatharāgni is impaired, the Bhūtāgni and Dhātāvāgni would also be having impairment. Hence during treatment of any kind of Agnimāndya or Āma conditions one should think about all the three levels. Such a way if Medo Dhātāvāgni is impaired and the homologous nutrients present in Poṣaka Medo Dhātu will be in excess in circulation and this can be referred to the conditions such as hyperlipidaemia. This is because the Poṣaka Medo Dhātu cannot be assimilated into Sthāyi Medo Dhātu by Medodhātāvāgni. The cause for excess Poṣaka Medo Dhātu in circulation is not only Medodhātāvāgnimāndya, but there may be decrease in other Agni also. Any cause, which can lead to Kapha Vriddhi, Pitta Kṣaya or Vāta Prakopa, can lead to this condition. In Medoroga, due to the excessive supply of Snigdha, Madhura, Guru etc. types of āhāra, the āhārasa contains excessive nutrition homologous to Medas. Due to persistent overload, the Medoagni is diminished leading to excessive accumulation of Medas in Āma form and thus causing Medoroga

Obesity

Definition

Obesity is a term used to describe excess body fat, it is defined in terms of a person's weight and height, or their body mass index (BMI). A person with a BMI over 30 is classified as being obese. Obesity makes your body less sensitive to insulin action.

obesity in ayurveda is correlated with sthauilya

Definition of Sthauilya

A person having excessive fat in life Sphika (Hip), Udara (Abdomen) and Stana (Chest) due to excess deposition of Meda (Fat) along with Mamsadhatu and also having unequal abnormal distribution of Meda with reduced enthusiasm towards life is called *Atisthula*. Obesity is an increase in body weight beyond the limitation of skeletal and physical requirements as the result of excessive accumulation of body fat.

Type of obesity

Two types are described on basis of etiology

1) **Primary:** Vast majority of cases are of the primary variety, it will be presumed that the obesity is of primary variety.

2)Secondary: where obesity is due to a known disorder(Cushing's syndrome,hypothalamic disorder.)

Cause of Obesity

1)Genetic- heredity: Obesity ,now it is established,is strongly dependent on heredity.some persons are,due to heredity factors,prone to become obese.

2)Hypothalamic se point: Hypothalamus has a set point regarding amount of body fat.if the body fat is lowered, the person develops ravenous appetite-he eats more until the set point is achieved.Conversely,if the body fat amount exceeds the set point the appetite decreases till the body fat amount is restored. It may be noted that this set point may alter in ones life time.Thus,in a middle aged person,the set point may be elevated and the person gains weight. A person may undertake semi starvation,losing weight but soon the appetite becomes so stronge weight gain is double or it is comparatively easy to reduce weight temporarily.it may be determined by genetic factors.

3)Psychology: some persons eat whenever the food is good,some of persons eat until they feel little discomfort.ssss

Pathophysiology of obesity

Leptin is a polypeptide hormone discovered recently and currently under intense research.Obesity, ischemic heart disease and even cancer may be related to leptin.Neuropeptide Y in hypothalamus increase appetite and food intake.

Leptin is produced by adiposity of te body rises,more leptin is produced → Leptin carried via blood → reaches hypothalamus → leptin binds with its receptors in hypothalamus → ultimate result is decreased food intake. Probably leptin causes suppression of neuropeptide Y synthesis. It appears human obesity is due to lack of leptin receptors. leptin is correlated with obesity, so obesity get increased.

Sign and symptom

1. Ayushohrasa (Diminution of life span)
2. Javoparodha (Lack of enthusiasm)
3. Kriccha Vyavaya (Difficulty in sexual act)
4. Daurbalya (General debility)
5. Daurgandhya (Foul smelling of body)
6. Swedabadha (Distressful sweating)
7. Kshudhatimatra (Excessive hunger)
8. Pipasatiyoya (Excessive thirst)

Classification

Vagbhata have been mentioned three types of *Sthaulya* i.e. *Adhika*, *Madhyama* and *Hina*.

(1) Hina Sthaulya : (B.M.I. 25-30 kg/m² – Over Weight)-Mild degree of overweight, without any complication or secondary disease, with less than four undesirable symptoms and with duration of less than 1 year – can be considered as *Hina Sthaulya*.

(2) Madhyam Sthaulya : (B.M.I. 30-40 kg./m² - Obese)-Moderate degree, with least complications without secondary disease, with less than 8 undesirable symptoms and duration of 1 to 5 years can be considered as *Madhyam Sthaulya*.

(3) Adhika Sthaulya : (B.M.I. > 40 kg./m² – Very Obese)-Excessive degree, with complication and secondary disease with all 8 undesirable symptoms and duration of more than 5 years can be considered as *Adhika Sthaulya*.

Samprapti

Nidansevan is first and most important event in Samprapti, Nidan as describe ultimately all of them to jataragni dushti and kaphavidhi. In which jatharagni is impaire and bhutagni,dhatwagni having Impairment which lead to Ama Annarasa and subsequent Ama rasa Dhatu.Ama rasa dhatu leads to medodhatvagnimandya leads to Amarupa Medovridhi which leads to sthaulya and medoroga. On other aspect Kapha vridhi and this ama meda dhatu formation leads to avarana of Vataand srota avarodha which ultimately lead to vata dosha vitiation. Due to sanga in medovaha srotsa the nutrients can not be carried by Vyana vayu to their respective dhatus.the process of circulation ,digestion and proper distribution of dhatus are controlled by samana and Vyana vayu. In this disease vata has been mention in the state of avaritya Which provokes the agni ultimately increasing the demand for the food (abhyavaharana shakti). But in case of anya nidana like beejadosha and avarana direct medovaha Srotodushiti occurs which results in the vridhi of ama asthaya medo dhatu (dyslipidemia) or ama sthaya medo dhatu (excessive adipose tissue) or Both.the increase in ama sthaya medo dhatu would lead to condition like Ama asthaya medo dhatu vridhi (dyslipidemia) or prameha (dibetes Mellitus). the ama sthyi medo dhatu if untrated,on further progression Causes maragavarana to vata leading to the shoshana and kathinya of the Sthanika medo dhatu.this results in a condition termed as dhamani Pratichaya or atherosclerosis causes lesions in all the three maha marma Hridaya shira and basti which is evident as coronary heart disease, Cerebrovascular diseses and renal insufficiency.

SAMPRAPTI GHATAK

- 1) **Dosha:** Kapha ,vata
- 2) **Dushya:** Rasa, Meda Dhatu
- 3) **Agni:** Jatharagni Rasa and Meda Dhatvagni
- 4) **Srotas:** Rasavaha Srotas, Medovaha Srotas
- 5) **Srotodushiti:** Sanga
- 6) **Adhishtana:** Sarva sharir
- 7) **Udbhavasthana:** Amashaya
- 8) **Roga Marga:** Bahya
- 9) **Ama:** Jatharagni and Dhatvagni Mandyajanita Ama

DISCUSSION

Concept of abnormal & unequal distribution or collection of Medodhātu in body can be inferred as Medoroga.

Charaka given causes of Medoroga as, Medas potentiating diet, Harshnityatwat, Achintanat, excessive indulgence with Brimhana Basti, Taila Abhyanga, Snigdha Udvartana and Beejadosh. Whereas Sushruta & Vagbhata stressed mainly on endogenous causes including deranged functions of Doṣas, Dhātus, Mala, Strotasa etc.

Āmadoṣa is the cause behind Medoroga specially mentioned by Vagbhata. According to Samānaya Viśeṣa Sidhdhanta & Ashraya ashrayee Sambandha between Doṣa-Dushyas, there is direct relation between Kapha Doṣa & Medodhātu i.e. increased consequences of Kapha directly leads to increment in Medas proportion. All Acharyas have given nearly same pathogenesis in which Kapha & Medodhātu play vital role leading to Medoroga. Hence, these two are main Doṣa-Dushya Ghataka in pathogenesis. Accumulation of Kapha & Meda leads to Srotovarodha causing trapping of Samāna Vāyu in Koṣṭha leading to Āvaraṇa to Samāna Vāyu, it leads to Jatharāgni Sandhūkṣaṇ & increased Jatharāgni leads to rapid digestion of ingested food & leaves the person craving for food. This vicious cycle continues resulting in Meda Atiupachaya. Sushruta has mentioned Medoroga as Rasanimitaja Vikāraa i.e. Dushya dominant disorder. According to Ayurveda, when food is ingested, it is first of all acted by Jatharāgni to form Āhāra Rasa, thus Āhāra Rasa acts as Substrate for Dhātuposhana by respective Dhātuvāgni. Dhātuvāgnimandhya develops when the substrate for Medodhātuvāgni i.e. Meda Poṣaka Rasa is present in excess form than the digestive power of Medodhātuvāgni.

Sushruta says that the Atisnehayukta Anna Rasa leads to excess formation of Meda dhātu. The three Acharyas have considered Vrikka as one of the moola of Medovaha Srotas but Vapavahana, Kati and Mamsa are mentioned as second moola separately. Sushruta and Vagbhat have given more anatomical preference than the physiological point of view by considering Kati and Mamsa as “Moola” of the Medovaha Srotas. While Charaka’s consideration was a physiological one.

CONCLUSION

The Medo Dhatu plays an important role in two important functional aspects i.e. Dharana & Poshana of the body. Jatharagni is impaired, the Bhutagni and Dhatwagni especially Medo Dhatwagni is impaired resulting of the homologues nutrients present in Poshaka Medo Dhatu will be in excess in circulation and ultimately develops Medoroga. Lastly, Agni plays a very important role in growth, development & maintenance of the body. So the Agni should be maintained at equilibrium by changing the life style.

REFERENCES

1. Shastri Kashinath & Gorakhnath Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini Hindi commentary, Sutra sthana
2. Shastri Kashinath & Gorakhnath Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini Hindi commentary, Sutra sthana 23rd chapter Santarpanadhyaya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2005; 436.
3. Brahmasankara Misra, Bhavprakash of Bhavmisra, edited with vidyotini hindi commentary, 39th chapter, Medorogadhyay, Chaukhambha Sanskrit Sansthan, Varanasi, 8th edition, 2003; 405.
4. Shastri Kashinath & Gorakhnath Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini Hindi commentary Sutra sthana 21st chapter Ashtaninditiya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2005; 411.
5. Harrison’s Principles of Internal Medicine, Vol 1, chapter 64, Obesity, Mc-Graw Hills; 16th Edition, 2005; 422.
6. Shastri Kashinath & Gorakhnath Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini Hindi commentary, Sutra sthana 21st chapter Ashtaninditiya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2005; 409.
7. Shastri Ambikadutt, Susruta Samhita edited with Ayurveda tatva sandipika Hindi Commentary, Sutra Sthana 15th chapter, Dosha-dhatu-mala-kshaya-vridhdhivigyaniya, Chaukhambha Sanskrit Sansthan, Varanasi, reprint edition, 2007; 62.
8. Shastri Kashinath & Gorakhnath Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini Hindi commentary, Sutra sthana 21st chapter Ashtaninditiya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2005; 411.
9. Shastri Kashinath & Gorakhnath Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini Hindi commentary,
10. Sutra sthana 21st chapter Ashtaninditiya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2005; 409.
11. Tripathi Ravidutt, Ashtanga Sangraha of Vagbhata, saroj hindi commentary, Sutra Sthana 24th chapter, dwividhupkramniya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2003; 436.
12. Atrideva Gupta, Ashtanga hridya of vagbhata, vidyotini hindi commentary, sutra sthana 14th chapter dwividhupkramniya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2007; 80.
13. Shastri Kashinath & Gorakhnath Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini Hindi commentary, Sutra sthana 21st chapter Ashtaninditiya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2005; 415.
14. Shastri Kashinath & Gorakhnath Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini Hindi commentary, Sutra sthana 16th chapter Chikitsaprabhritiya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2005; 321.
15. Shastri Kashinath & Gorakhnath Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini

- Hindi commentary, Sutra sthana 21st chapter Ashtaninditiya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2005; 414.
16. Shastri Kashinath & Gorakhnath Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini Hindi commentary, Sutra sthana 23rd chapter Santarpanadhyaya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition; Varanasi, reprint edition, 2005; 437.
 17. Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini Hindi commentary, Sutra sthana 21st chapter Ashtaninditiya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2005; 414.
 18. Shastri Kashinath & Gorakhnath Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini Hindi commentary, Sutra sthana 21st chapter Ashtaninditiya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2005; 414.
 19. Shastri Kashinath & Gorakhnath Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini Hindi commentary, Sutra sthana 21st chapter Ashtaninditiya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2005; 415.
 20. Shastri Kashinath & Gorakhnath Chaturvedi, Charaka Samhita of Agnivesha elaborated Vidyotini Hindi commentary, Sutra sthana 21st chapter Ashtaninditiya, Chaukhambha Bharati Sansthan, Varanasi, reprint edition, 2005; 414-5.
 21. Shastri Ambikadutt, Susruta Samhita edited with Ayurveda tatva sandipika Hindi Commentary, Sutra Sthana 15th chapter, Dosha-dhatu-mala-kshaya-vridhivigyaniya, Chaukhambha Sanskrit Sansthan, Varanasi, reprint edition, 2007; 62-3.
 22. Shastri Ambikadutt, Susruta Samhita edited with Ayurveda tatva sandipika Hindi Commentary, Sutra Sthana 38th chapter, Dravya-sangrahaniya, Chaukhambha Sanskrit Sansthan, Varanasi, reprint edition, 2007; 142.
 23. Brahmasankara Misra, Bhavprakash of Bhavmisra, edited with vidyotini hindi commentary, 39th chapter, Medorogadhyay, Chaukhambha Sanskrit Sansthan, Varanasi, 8th edition, 2003; 406-7.
 24. Brahmanand Tripathi, Sharangdhara Samhita elaborated dipika hindi commentary, purvakhand 2nd chapter, Chaukhambha Subharti Prakashan, Varanasi, reprint edition, 2011; 25.