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A Review on *Sthaulya* (Obesity) and the Concept of *Langhana Upakrama* in the Management of *Sthaulya* (Obesity)

Vipin Kumar^{1*} and Sapana Khatri²

¹Dept of Basic Principles, National Institute of Ayurveda, Jaipur, Rajasthan, India

²Dept of Agad Tantra, National Institute of Ayurveda, Jaipur, Rajasthan, India

ABSTRACT

The aim of *ayurveda* is *Swasthya Swasthya Rakshanam* and *Aaturasaya Vikara Prashamanam*. To achieve these two objectives, various treatment modalities are explained which are very unique. *Upakramas* is the word used to denote the various treatment modalities. Elaborate description is available in all the classical texts of *Ayurveda* regarding *Upakrama* in general & *Langhana Upakrama* in particular. In *Charaka Samhita* '*Shadavidha Upakramas*' are mentioned by which specific action is achieved by usages of specific type of drugs or procedures which has the specific qualities. Among the six, *Langhana Upakrama* is one which is advocated when *Laghuta* is to be achieved in the body. *Ayurveda* advocates two basic treatment principles which are termed as *Brimhana* (nourishing therapy) and *Langhana* (reducing therapy) *Upakramas*. Management of all the disease is centered on these two principles. Among the two, *Langhana Upakrama* is the one advocated in conditions which arise due to *Atibrimhana/Santarpana* (over nourishment). One among the diseases caused due to *Santarpana* is *Sthaulya* which is equivalent to the disease entity obesity described in contemporary medical science.

It is one of the most popular lifestyle disorder in which genetic, environmental & psychological factors plays important role, especially in case of primary obesity there is no obvious cause exists other than an imbalance in energy intake & expenditure. No obvious ca. Several medical conditions have been linked with obesity which includes type 2 diabetes, heart disease, high blood pressure, and stroke. Lots of researches have been done on obesity. On the light of above the present study was undertaken to compile and analyze the concept of *Langhana Upakrama* in the management of *Sthaulya* (obesity).

KEYWORDS

Langhana, Obesity, Sthaulya, Upakrama



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INTRODUCTION

The significance of *Sthaulya* as a pathological condition has been recognized in *Ayurvedic* literature since the period of *Charaka Samhita* which is evident in considering *Sthaulya* as one among the *Ashtauninditas*. *Brihatrayi* consider *Sthaulya* as an abnormal condition. However, the later literature of *Ayurvedic* recognized it as a separate disease entity under the heading of *Medoroga*. *Sthaulya* in terms of obesity has also been considered as a great health problem in the present era drawing lot of attention of the researchers and clinicians as well.

Nidana of *Sthaulya*:

The hereditary component (*Bijadosha*) besides dietetic, regimomial and psychological factors in the causation of *Sthaulya* is described by *Charaka Samhita*. These are mostly of exogenous type. Except these factors, the components which may vitiate *Meda* and *Shlesma* could be considered as causative factors of *Sthaulya*. Endogenous types of causes are mentioned by *Acharya Sushruta* and *Vagbhata*.

All the causative factors described in *Ayurvedic* classics can be classified into 2 groups:

1) *Vyadhi Karaka Nidana*:-

In *Vyadhikaraka Nidana* those *Nidana* (causative factor) are included which are

responsible for production of disease¹. A substance will increase those *Bhavas* (qualities) which it inherits; they are of *Dravya Samanya*: fatty material like *Mamsa, Meda*, etc., *Guna Samanya*: *Guru, Snigdha, Sheeta* etc., *Karma Samanya*: *Divaswapa, Avyayama, Sukhasana* etc.

2) *Roga Gyanapakama Nidana*:-

In *this Nidana Panchaka* can be included i.e., *Nidana, Purvarupa, Rupa, Samprapti* and *Upashaya*. *Medodosha's* causative factor includes the causative factor which is responsible for increment of *Kapha* and also responsible for *Meda* increment (*Vridhhi*) as well as *Dushti* (vitiation).

Nidanas of *Sthaulya* mainly can be classified into 4 groups:

1. *Aharajanya Nidana* (Dietetic causes)
2. *Viharajanya Nidana* (Regiomonal causes)
3. *Manasa Nidana* (Psychological causes)
4. *Anya Nidana* (Other)

1. *Aharatmak*²:

Role of Dietary Causes in *Sthaulya*:

On the basis of *Samanya Vishesh Siddhanta*³, Over production of *Dhatu* is due to the excessive consumption of *Dravyas* of similar substance (*Dravya samanya*), similar quality (*Guna samanya*) or similar in action (*Karma samanya*). In the same way, the growth of *Meda dhatu* is observed by excessive consumption of



fatty substance due to *Dravya Samanya*, when one or two or all the three properties are similar, then such substances boost up the growth of the *Dhatu*.

2. *Viharatmaka*:

1) *Avyayama*⁴:

Avyayama, is one of the main cause for aggravation of *Kapha*, which produces *Gauravata*, *Shaithilya*, *Agnivikrita*, *Alasya*, *Dukha Asahishnuta* etc., results in clinical entity-*Sthaulya*.

2) *Divaswapa & Atinidr*⁵:

During *Nindra* and *Divaswapa*, diminished physical activities provoke *Kapha* leading to *Meda* deposition on the basis of *Karma Samanya Siddhanta* leads to *Sthaulya*.

3) *Aasana Sukha*: This is also *Kapha* and *Meda* aggravating factor. So, those who have sitting and sedentary working style are more prone to *Sthaulya*.

3. *Manasa nidana* (psychological causes):

Achintana, *Harshanitya*, *Mansonivriti* etc. are the psychological factors described by *Ayurvedic* texts. These factors are *Kapha* aggravating factors, which in turn aggravates *Meda*.

4. *Any nidana* (Other)

1) *Beeja svabhava* (genetic factor):

Only *Charaka* has defined *Beejadosh* as one of the cause besides other. According to *Charaka*, defect in *Beejabhagavayava* i.e. part of *Beeja*, which resembles with

chromosomes and genes may lead to defective development of that organ. In *Bhava Prakasha*, it is mentioned that at the time of conception, if there is decreased proportion of *Shonita* and increased proportion of *Shukra* in *Beeja* then issue will be potent but lean body, when there is increased proportion of *Shonita* and decreased proportion of *Shukra* in *Beeja* predisposes towards development of *Sthool* but weak body.

2) *Iatrogenic factors* (*rasayana - vrishya atisevana*):

Rasayana and *Vrishya Upasevana* have been mentioned as a line of treatment for *Karshya*⁶, hence excess indulgence of *Rasayana* and *Vrishya* drugs may cause *Sthaulya*. Over indulgence of *Brimhana* drug intake after meal⁷, *Brimhana Basti*, *Taila Abhyanga*, *Snigdha Udvartan*⁸ etc. are considered as causative factors of *Sthaulya*. *Vrishya* drugs also have *Brimhana* action.

3) *Drugs*

Some drugs when taken for a long duration results into obesity. This is especially true for the hormonal preparations taken by women i.e., oral contraceptive pills and Hormone Replacement Therapy. Weight gain is a common side effect of oral contraceptive pills.

*Purvarupa*⁹:-



These *Purvarupas* are those signs and symptoms which appear during the *sthanasamsraya Avastha* by the vitiated *Doshas* and *Dushyas*¹⁰. *Purvarupas* of *Sthaulya* are not mentioned in any of the *Ayurvedic* texts. Presence of symptoms itself in mild form means marginal overweight since childhood can also be taken as *Purvarupa* of *Sthaulya*. Moreover, *Medovaha Srotodushti Lakshanas* which are also described as *Purvarupas* of *Prameha* can be considered as *Purvarupas* of *Sthaulya*¹¹. The symptoms related with *Medodushti* like *Atinidra*, *Tandra*, *Alasya*, *Angagaurava*, *Sathilya* etc can be considered as *Purvarupas* of *Sthaulya*. In modern medical science also no premonitory symptoms of Obesity are described, so overweight and its related initial or mild symptoms can be taken as premonitory symptoms.

Samprapti

The *samprapti* of *sthaulya* has been briefly dealt in all the three major classical text books of *ayurveda*. *Charaka samhita* has narrated the patho- physiology of *sthaulya* by highlighting the process *medasavruta vata*¹². It states that the *nidanas* increase *medas* alone at the cost of other *dhatu*s in vulnerable people. Due to the *avarana* of *vayu* by *medas*, *vata* is specially confined to *koshta*, resulting in exaggerated speed

of digestion. This causes the habit of over eating and related intake of food. The major portion of the food thus consumed is ultimately converted into *medas* resulting in *sthaulaya*.

The version of *sushruta samhita* regarding the patho-physiology of *sthaulya* differs slightly from that of *charaka samhita*. It states that, *sthaulya* is *rasanimmittaja*. Due to the indulgence of *nidanas*, there will be formation of *annarasa (amarasa)*, which is predominantly *madhura* in nature. As a consequence of this, the process of *dhatu parinama* is hindered resulting in excess *sneha* and *medas* due to *dhatvagnimandya* ultimately leading to *sthaulya*¹³. *Nibandha sangraha vyakhya* of *dalhana* on *sushruta samhita* elaborates and throws some more light on this process on pathogenesis. The commentary tries to critically analyze how *ama* is produced in people who are predominant of *medas*, though they have *teekashnagni*. The reasons attributed for *amotpatti* are *dhatvagnimandya* and *adhyashana*. Even though *medasvi* people have *teekashnagni* the *dhatvagnimandya* eventually leads to the production of *ama*. The *ama rasa* which is produced due to *rasadhatvagnimandya*, remains in *ama avastha* itself in the *dhatu poshana karma*, still *medodhatu upachaya* takes place at the cost of *rakta* and *mamsa*, there are three reasons attributed for this¹⁴



- Due to intake of specific diet which is conducive to *medodhatu*.

- Due to *adrushta* (for which specific reasons cannot be attributed)

- Due to *marga avarana* by *medodhatu*.

In *ashtanga sangraha* the *samprati* of *sthaulya* is explained as follows

Due to intake of *nidana* such as *guru ahara*, the *anna rasa* produced is predominantly in *amavastha*, which mixes up with *sleshma* which will be adherent or concealed (*samleena*) in *dhatu*s. The resultant material causes the *shlatheekarana* of *dhatu*s. As an end result of this process *sthaulya* takes place¹⁵.

Madhava nidana tried to integrate the views of both *charaka samhita* and *sushruta samhita* in formulating the pathophysiology of *sthaulya*.

Indulgence in *nidanas* such as *avyayama*, *divaswapna*, *sleshmala ahara* forms the *anna rasa* which has the predominance of *madhura rasa* as a result of which there is increase of *sneha guna* and *medo dhatu* in the body. The *medo dhatu*s thus excessively produced causes *margavarodha*. As a result of which other *dhatu*s are depleted causing symptoms such as inability to perform all the activities, *kshudra shwasa*, *trushna* and *moha*.

Madhukosha commentary of *madhava nidana* emphasizes the role of untimely food as the cause of the formation of *ama* in people who are obese. In addition to this there is an *upalepa* of *madhura rasa* in *annavaha srotas*. As a result of that *annavaha srotas* predominantly contains *madhura anna rasa* irrespective of *rasa* consumed, initiating the patho-physiology of *medo vruddhi*¹⁶.

Roopa

The cardinal features of *sthaulya* described in classical text books are as follows:

- *Chala sphik udara stana* (Pendulous Buttocks-Abdomen-Breast)

- *Ayath-upachaya utsaha* (Disproportionate strength with his physical growth)

- *Medomamsa ativriddhi*¹⁷ (Excessive growth of muscle & fat tissue)

Charaka samhita has described *ashta doshas* inherent to the *ati sthauila* people and can be taken as the features of *sthaulya*¹⁸. They are as follows

1. *Ayushohrasa* (Decreased life span)
2. *Javoparodha* (Sluggish movement or less energy level)
3. *Krucchra vyavayata* (Difficulty during sexual intercourse)
4. *Dourbalya* (Weakness)
5. *Dourgandhya* (Bad/Unpleasant body odour)
6. *Swedabadha* (Excessive sweating)



7. *Kshut atimatra* (Excessive hunger)

8. *Pipasa atiyoga* (Excessive thirst)

The individual causes of all these eight *doshas* have been mentioned separately. *Atisthauilya* affects the longevity of life because of the disproportionate nutrition and over production of *medodhatu* causing under nutrition or under production of other *dhatu*s.

Bodily movements are sluggish as a result of *shaithilya*, *soukmarya* and *gurutva* of *medas*.

Krucchra vyavaya occurs because of *shukra abahutva* and *medasavruta margatva*.

Dourbalya is due to the *asamatva* of *dhatu*s.

Dourgandhya is caused by the inherent defect and the nature of the *medas* and also due to excessive sweating.

In *sthaulya* people, *medas* is associated with *kapha* and there is predominance of *gunas* such as *dravatva*, *gurutva* and *vishyanditva*. These qualities associated with a decreased threshold for physical exercise causes excessive sweating.

The last two *doshas* namely *atikshudha* and *ati pipasa* are caused as an effect of *teekshnagni* and *prabhoota vata* in *koshta*.

The other features of *sthaulya* described in different classical text books can be listed as follows.

Diagnosis:

If it is diagnosed at initial stage, preventable measures can be taken in early stages to prevent the disease. *Sthauilya* mentioned as *Chakshurindriya Vijneya Bhava* in *Sushruta Samhita*¹⁹. Apart from this *Pratyaksha Anuman & Aptopadesa Pariksha* are other useful diagnostic methods, which can be applied to diagnose *Sthauilya* & its related symptoms²⁰. In *Ashtavidha Pariksha*, *Sthauilya* can be examined by *Akrti Pariksha*. The objective criteria of diagnosis in *Sthauilya* may be *Ayurvedic Pramana Pariksha & Samhanana Pariksha*

Samprapti: -

In Ayurveda manifestation of any disease is occurred in body when there is vitiation of basic component of body which are *Dosha*, *Dushya*, *Srotas*, *Agni* and *Ama*.

1. Dosh:

All three *Doshas* are vitiated in the pathogenesis of *Sthauilya*.

a) **Kapha:** In Ayurvedic classics *Sthauilya* is described as *Shlesma Nimitaja Vyadhi*²¹. So *Kapha* is main *Dosha* which is vitiated in the disease. The *Roopa* of *Sthauilya* also belongs to the *Kapha Vriddhi (Prakopa) Lakshana* i.e. *Alasya*, *Gatrasadan*, *Angaguruta*, *Nidradhikya* etc. *Kapha Prakriti* peoples are more venerable to this disease .

b) **Pitta:** In obesity, *Pitta Dosha* is also in slightly higher level because many



symptoms of *Sthaulya* are of *Pitta Vriddhi* like *Ati Kshut*, *Ati Pipasa*, *Swedadhikyata*, *Daurgandhyatva*.

c) **Vata:** In this disease, *Vata Dosha* is present in *Kostha as a Avritaavastha* which makes the *Tikshanaagni* results in increases the *Abhyavaharana Shakti* or demand of food of an obese.

2. *Dushya:*

All *Acharyas* have accepted the *Sthaulya* under *Medovriddhi*²². *Acharya Sushruta* has said that *Sthaulya* is a *Dushya Pradhanya Vyadhi* and in practice the excessive production of *Vikrata Meda Dhatu* is clearly visualized. Excessive intake of *Guru*, *Snigdha*, *Madhuradi Guna* dominant diets, increases the abnormal accumulation of *Medodhatu*. Hence in light of above, the involvement of *Medodhatu* and *Rasa dhatu* as *Dushya* is clearly visualised and later on other *Dhatu* gets involved and produced other diseases mentioned as *Upadrava* of *Sthaulya*.

3. *Srotas:*

According to *Acharya Charaka*, *Avyayama*, *Divaswapa* excessive intake of *Madhura dravyas* and *Varuni*, are the *Nidana* of *Medovaha strotodushti*²³. It indicates clear involvement of *Medovaha Srotas* along with *Rasavaha Srotas*. *Atisweda* and *daurgandhya* indicates the involvement of *Swedavaha srotas*. Presence of *Atipipasa* indicates the

involvement of *Udakavaha srotas*. In the pathogenesis of *Sthaulya*, increase fat deposition inside the muscle (*Vasa*) indicates the involvement of *Mamsavaha srotas*.

4. *Agni and Ama:*

According to *Vagbhatta*, *Mandagni* at *Jatharagni* and *Dhatvagni* level is considered as root cause of all disease. Due to *Mandagni*, formation of *Ama* occurs then disorders like *Sthaulya* results from derangement of *Dhatvagni*²⁴. Due to vitiation of *Vata* by *Avarana* of *Meda*, *Tikshnagni* is seen as a prominent feature in obese person. In this disease the *Medodhatvagni* is in the state of *mandyata*, so ultimately previous *Medodhatu* increases and further production of *Uttaradhatu* i.e. *Asthi*, *Majja*, *Shukra* are decreased.

Patient shows the symptoms of *Rasavridhhi* (*Rasagata Snehamsa*) and *Kapha Vriddhi* e.g. *Angagaurava*, *Alasya*, *Tandra* & *Nidradhikya* etc. Actual *Medodhatu* gets clinical increase later on and this increase of *Meda* reflects with various physical signs like *Chala – Sphik – Udara – Stana*, *Kshudra Swasa*, *Swedadhikya* etc., difficulty in performing all his daily activities. Further improper nutrition to *Asthi*, *Majja* and *Shukra Dhatu* may also take place.

Sadhyaasadhyata



Sthaula is considered as one among the *ashta nindita purushas*. It is considered to be a difficult condition for treatment because of the complexity involved in the management. The treatment procedures like *santarpana* and *apatarpana* cannot be applied easily. The main difficulty with the *sthaula* person is that if they are given *santarpana* measures they will grow more corpulent, they even cannot withstand *apatarpana* measures because of their strong digestive power²⁵.

Sthaulya which occurs due to *beeja dosha* is *asadhya* since all *sahaja vyadhis* are said to be *asadhya*²⁶.

If *sthaulya* is associated with *upadravas* it is very difficult to cure. The *upadravas* of *sthoulya* are mainly due to *vata & agni vaishamyas*. These *upadravas* are *daaruna* in nature as they destroy life.

Role of Langhana Upakrama in the management of sthaulya

The management of *sthaulya* is considered as difficult and challenging because of the complexity of treatment involved. It is considered that the treatment of *karshya* which is the opposite condition of *sthaulya* is simple and straight forward. All treatment modalities which cause *brihmana* will alleviate *karshya*. On the other hand the treatment of *sthaulya* is relatively difficult because neither *brihmana* nor *karshana* can be carried out

easily. *Brihmana* increases the body mass while *karshana* even though is supposed to reduce the body mass are difficult to be carried out because of the strong digestive power which normally accompanies the condition of *sthaulya*²⁷.

The treatment principles of *sthaulya* mentioned in various *ayurvedic* texts are mainly aimed at the correction of *vata*, *kapha* and *medas*²⁸. This can be achieved by adopting the following treatment procedures.

In general *nidana parivarjana* (Avoid the causative factors) is considered as the basic management modality of all the disease and *sthaulya* in particular. *Sthaulya* is a condition caused by the intake of *brimhana ahara & vihara* in excess. The management of the condition is invariably dependent on all such factors results in *brihmana*. This includes avoidance of excessive sleep (*Aswapana*), indulgence in regular exercise & sexual activities, regular mental activities is also considered as the integral part of management. An individual planning to reduce his weight should accustom to these activities & increase them gradually

The other important management strategy in *sthaulya* is *langhana chikitsa*²⁹ which incorporates both *shaman* (Alleviating therapy) & *shodhana* (Biopurification therapy) therapies. *langhana* is defined as



the means for achieving *lahgavata* in the body³⁰.

Langhana upakrama- *Langhana upakrama* incorporates various procedures/medications by the use of which *lahgavata* of the body is achieved.

Synonyms- *Apatarpana* in the context of *dvividhopakrama* the words *langhana* and *apatarpana* are used synonymously in *astanga hridaya*³¹

Classification- Various classifications have been made in classics which include:

1. *Dashavidha langhana*- *Charaka samhita* classifies *langhana upakrama* into ten types which include *vamana*, *virechana*, *asthapana*, *raktamokshana*, *pipasanigraha*, *atapa sevana*, *maruta sevana*, *pachana*, *upavasa* and *vyayama*³².

2. *Dvividha langhana*- *Astanga hridaya* classifies *langhana* into two types i.e., *shaman* and *shodhana*.

Shaman rupi langhana includes *pachana*, *deepana*, *kshut*, *trut*, *vyayama*, *atapa* and *maruta sevana*.

Shodhana rupi langhana is further classified into five types i.e. *niruha*, *vamana*, *virechana*, *shiro-virechana*, *raktamokshana*³³.

3. *Trividha langhana*- *langhana*, *langhana-pachana*, *doshavasechana* are considered as the three varieties of *langhana*³⁴.

Guna, karma of *langhana dravyas*-

Davyas which possess *laghu*, *ushana*, *teekshna*, *vishada*, *ruksha*, *sukshma*, *khara* and *kathina* are termed as *langhana dravyas*³⁵

The latter is carried out in the patients of *sthaulya* by the procedures which include *virechana* (Medicated purgation), *basti* (Medicated Enema) & *raktamokshana* (Blood leaching)³⁶. *Charaka samhita* advocated *teekshna*, *ushna* & *ruksha basties* (Enema containing dry, hot and bitter drugs). Similarly *sushrutha samhitas* advocates *lekhana basties*³⁷. Even though *vamana* is also one among the *shodhana* therapy, it is contraindicated in the management of *sthouly*³⁸. *Udvartana* with *ruksha dravyas* (Dry powder massage) in one another important *upakrama* in the management of *sthaulya*. *Shaman chikitsa* includes *deepana*, *pachana*, *kshut* and *trushna nigraha*, *vyayama* and *maruta sevana*³⁹.

Selection of drug based on *rasa*

Katu and *kashaya* *rasa* are having *karshana*, *upachayahara* properties, while *tikta* *rasa* is having *lekhana* and *medo upashoshana* *karma*. Hence, *katu*, *tikta* and *kashaya* *rasa* dominant drugs can be made use of in the treatment of *sthaulya*⁴⁰.

Selection of drugs based on *panchabhoutikatva*.

For the management of *sthaulya*, the drug which reduces *kapha* and *medas* should be



used. *Akasha*, *agni* and *vayvaya mahabhuta* dominant *dravyas* are attributed to *laghavakara* action. Hence *akasha*, *agni* and *vayavya mahabhauta* dominant articles can be used for management of *sthaulya*⁴¹.

Selection of drugs based on *guna*

As per the *chikitsa sutra* of *sthaulya* the drugs prescribed for *sthaulya* should be *guru & aptarpana*. By the virtue of *guru guna*, the *ahara & aushadha* minimize the aggravated *vata* & also reduces the *teekshnagni*. The *aptarpana guna* of *ahara & aushadha* will help in the reduction of *medho dhatu*. According to *charaka samhita* in the context the term *guru* indicates the qualitative aspect of *ahara & aushadha*. In *sushruta samhita*, administration of *virukshana* and *chedaneeya dravya* is advised. In this context *dalhana* has explained that *virukshana* property helps to reduce *meda* and *chedaneeya* property helps to remove obstruction from body channels, particularly from *medovaha srotas* by its *srotovishodhana* property⁴².

CONCLUSION

- *Langhana upakrama* is one among the two *upakrama* and is meant for the management of *santarpana janya vyadhis*.
- *Sthaulya* is a *santarpana janya vyadhi* which is caused due to a multitude

of etiological factors which includes dietary and behavioral factors.

- The management of *sthaulya* is challenging as it is difficult to advise either *karshana* or *brimhana* therapy easily. As *karshana* further aggravates the *vata dosha* leading to complications and *brimhana* will make the person will *sthaula*.
- *Langhana upakarma* is an effective management strategy in *sthaulya*
- The ten sub types of *langhana upakarma* are nothing but various dietary and behavioral modifications along with pharmacotherapy to promote weight loss and maintain an appropriate BMI.
- Balancing the energy intake and expenditure is the idea behind various *langhana upakramas*.
- *Virechana* is one among the *shodhana rupi langhana* which is effective in the management of *santarpana janya vyadhis* like *sthaulya*.



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