ABSTRACT

The aim of ayurveda is Swasthya Swasthya Rakshanam and Aatursaya 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 & Lenghana 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 cause exists other than an imbalance in energy intake & expenditure. 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
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. Brihattrayi 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, regiomonal 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 Vagbhatta.

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 disease. 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, Ayyayama, 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 (Vriddhi) 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. Aharatmak²:
Role of Dietary Causes in Sthaulya:
On the basis of Samanya Vishesha Siddhanta³, 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 Dhatus.

2. Viharatmaka:
   1) Avyayama⁴:
      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 & Atinidr⁵:
   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 Beejadosha 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 Karshya⁶, hence excess indulgence of Rasayana and Vrishya drugs may cause Sthaulya. Over indulgence of Brimhana drug intake after meal⁷, Brimhana Basti, Taila Abhyanga, Snigdha Udvartan⁸ 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.
These Purvarupas are those signs and symptoms which appear during the sthanasamsraya Avastha by the vitiated Doshas and Dushyas. 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 Lakshananas which are also described as Purvarupas of Prameha can be considered as Purvarupas of Sthaulya. The symptoms related with Medodushti like Atinidra, Tanda, 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 by stating that the nidanas increase medas alone at the cost of other dhatus 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 parinamana is hindered resulting in excess sneha and medas due to dhatvagnimandya ultimately leading to sthaulya. Nibandha sangraha vyakhya of dahanaka 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 teekshnagni 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 this.
- 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 dhatus. The resultant material causes the shlatheekarana of dhatus. As an end result of this process sthaulya takes place. Madhava nidana tried to integrate the views of both charaka samhita and sushrutha 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 dhatus thus excessively produced causes margavarodha. As a result of which other dhatus 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.

Roopa

The cardinal features of sthaulya described in classical text books are as follows:
- Chala spik udara stana (Pendulous Buttocks-Abdomen-Breast)
- Ayath- upachaya utsaha (Disproportionate strength with his physical growth)
- Medomamsa ativriddhi (Excessive growth of muscle & fat tissue)

Charaka samhita has described ashta doshas inherent to the ati sthaula people and can be taken as the features of sthaulya. 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  
Atisthauly affects the longevity of life because of the disproportionate nutrition and over production of *medodhatu* causing under nutrition or under production of other *dhatus*.  
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*.  
*Dourgandhya* is caused by the inherent defect and the nature of the *medas* and also due to excessive sweating.  
In *sthaula* 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 pipiasa* 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. *Sthaulya* 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 *Sthaulya* & its related symptoms20. In *Ashtavidha Pariksha*, *Sthaulya* can be examined by *Akrti Pariksha*. The objective criteria of diagnosis in *Sthaulya* 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. **Dosha:**  
All three *Doshas* are vitiated in the pathogenesis of *Sthaulya*.  
a) **Kapha:** In Ayurvedic classics *Sthaulya* is described as *Shlesma Nimitaja Vyadhi*21. So *Kapha* is main *Dosha* which is vitiated in the disease. The *Roopa* of *Sthaulya* 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 Vridhdi 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. 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, Ayuyyama, Divaswapa excessive intake of Madhura dravyas and Varuni, are the Nidana of Medovaha strotodushti. 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. Due to vitiation of Vata by Avarana of Meda, Tikhnagni 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 Rasavridhdi (Rasagata Snehamsa) and Kapha Vridhdi 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 sthauula 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 power\textsuperscript{25}. Sthaulya which occurs due to beeja dosha is asadhya since all sahaja vyadhis are said to be asadhya\textsuperscript{26}.

If sthauula is associated with upadravas it is very difficult to cure. The upadravas of sthauula are mainly due to vata & agni vaishamya. These upaddravas are daaruna in nature as they destroy life.

**Role of Langhana Upakrama in the management of sthaulya**

The management of sthauula 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 sthauula is simple and straightforward. All treatment modalities which cause brihmana will alleviate karshya. On the other hand the treatment of sthauula 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\textsuperscript{27}.

The treatment principles of sthaulya mentioned in various ayurvedic texts are mainly aimed at the correction of vata, kapha and medas\textsuperscript{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 sthauula is langhana chikitsa\textsuperscript{29} which incorporates both shaman (Alleviating therapy) & shodhana (Biopurification therapy) therapies. langhana is defined as
the means for achieving laghavata in the body.  

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

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

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.

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.

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

Guna, karma of langhana dravyas- Davyas which possess laghu, ushana, teekshna, vishada, ruksha, sukshma, khara and kathina are termed as langhana dravyas.

The latter is carried out in the patients of sthaulya by the procedures which include virechana (Medicated purgation), basti (Medicated Enema) & raktamokshana (Blood leaching). Charaka samhita advocated teekshna, ushna & ruksha basties (Enema containing dry, hot and bitter drugs). Similarly sushrutha samhitas advocates lekhana basties. Even though vamana is also one among the shodhana therapy, it is contraindicated in the management of sthouly.

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 sevan.

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.

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 vayvaya mahabhauta dominant articles can be used for management of sthaulya.

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 property.

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.
REFERENCES