

## STHAULYA A CAUSE FOR MENSTRUAL IRREGULARITIES

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Article Received on 21/07/2017

Article Revised on 12/08/2017

Article Accepted on 03/09/2017

**ABSTRACT**

Sthaulya is a condition where in there will be ayatopachaya of shareera associated with abnormal increase in medodhatu. Frequent and excess intake of foods which increase kapha and medodhatu, sedentary lifestyle, lack of mental and physical exercise are the most etiological factors. Sthaulya can also occur due to beejadosha i.e hereditary causes. Sthaulya a cause due to Arthava vaha srotodushti vardhana (disturbances in hypothalamo-pituitary-ovarian axis and hormonal imbalance) leads to abnormal vatavrdhhi which in turn disturbs the hormones such as FSH, LH, Progesterone, Estrogen causes Menstrual irregularities.

**KEYWORDS:** Sthaulya, Arthava, Beeja dosha, HPO axis.**INTRODUCTION**

Sthaulya is the most common, frequent health related condition that poses a considerable challenge to physicians. It is one among the important risk factors. Two thousand years ago, Acharya Charaka has described Ashta Nindita purusha and emphasized in detail about two pathological conditions. Athisthula is worst among them, due to its complicated pathogenesis, variable complications and treatment. Acharya sushruta has emphasized on etiopathogenesis of Sthaulya. Sthaulya is one among the santarpanotha vyadhies. The incidence of Sthaulya is increasing at an alarming rate due to the sedentary lifestyle, junk food and mental stress.

In majority of the cases Sthaulya (Obesity) is associated with Artava vyapat (menstrual irregularities). 30-47% women suffering from Sthaulya complain of Artava vyapat. Sthaulya has its effect on artava due to rasadushti. Along with this medho dhatu, vata and kapha dosha are also involved. Acharya Bhavamishra has said that monthly expulsion of artava is a form of shareera shuddi. If this doesn't occur, then it may lead to disharmony in the biological makeup of women.

**UTPATTI**

Sthaulya is the term obtained from the root word 'Sthula' which means 'BROAD' or 'BIG' Sthaulya is derived as सथूल (धातु) अच् (पतयय) (शब्दकलपदुम)

**PARIBHASHA**

मेदोमांसाततवुदत्तवाचलसससगुदरसतनः

अयथोपचयोत्साहोनरोअततसथूलउचयते॥ (C.Su 21/9)<sup>[1]</sup>

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**DEFINITION OF OBESITY****> ETYMOLOGY:** latin – obesitas (means "stout, fat, or plump.).**> OBESITY:** Is a state of excess adipose tissue mass. Best defined as increase % of total body fat.(men > 25%, women > 35%)<sup>[2]</sup>**> BACKGROUND:** 30% of reproductive age women are obese, Additional 25% are over weight. There has been a 70% increase in the proportion of women who are obese at the beginning of pregnancy.**निदान**

According to Acharya Charaka.

तदतसथौलयमततसंपुरणानगुरमधुरशीतससनगधोपयोगाद  
वायामादवायाददवासवपाधहररतनतयतवदचनतनातदसव  
भावचचो पजयते॥ (C.Su 21/4)<sup>[3]</sup>

According to Acharya Susruta  
रसतनचमतमेवसथौलयंकारयरच।  
ततशेषमलाहारसेतवनोअध्यशनशीलसयावायचमनोददवासव  
परतसयचामएवानरसोमधुरतरशशरीरमनुकामनाततसनेहान  
मेदोजनयतत। (S.Su 15/32)<sup>[4]</sup>

According to Bhava Prakasha  
अवायामतदवसवपाशेरमलाहरसेवन

मधुरोअनरसः पायः सनेहोनमेदोतवधरयेत्  
मेदसावतमागरतवतपुरयनतयनेनधातवः  
मेदसतुचचयतेतसमादशकथः सवरकमरसु॥  
(BP M 39/1, 2)<sup>[5]</sup>

According to Astanga Sangraha  
गुवारददवुधसंलीनषलेरमचमशोआनजोरसः ॥

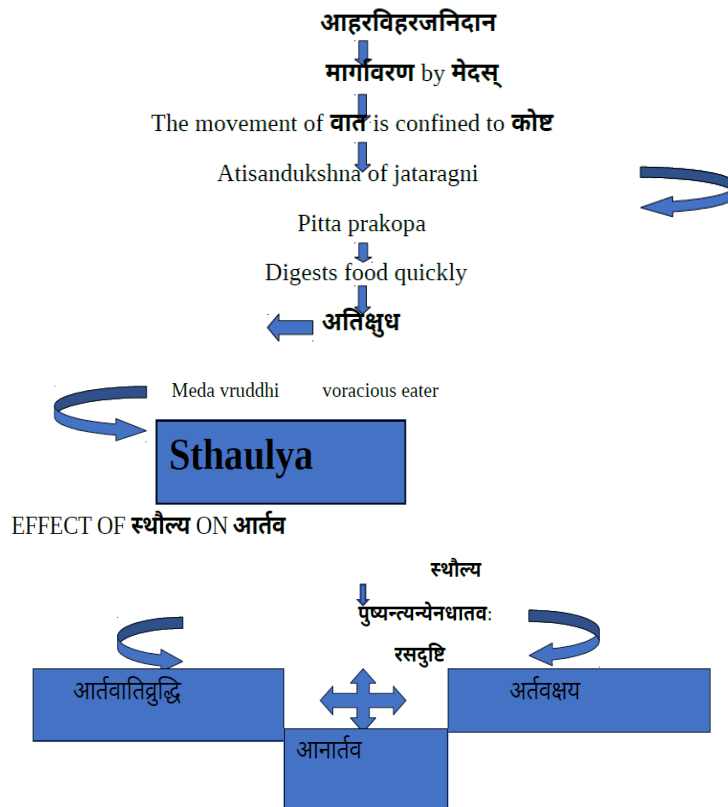
Aharatmaka	Viharatmaka	Manasika
Atisampurna, Santarpana, Adyasana, Excessive consumption of guru, madhura, sita, snigdha, slesmala ahara, mamsa sevana, payasa vikara sevana, dadhi sevana, Navannasevana, Navamadya sevana, Gramya sevana, Sarpi sevana, Iksuvisarpasevana, Gudavikkarasevan a, salisevana etc.....	Avyayama, Avyavaya, Divaswapna, Aasanasukha, Svapnaprasanga, Etc...	Harsanitiyatva, Acintanam, Manasonivrtti, Priyadarshana, Saukhyam. Other Factors- Bijasvabhava

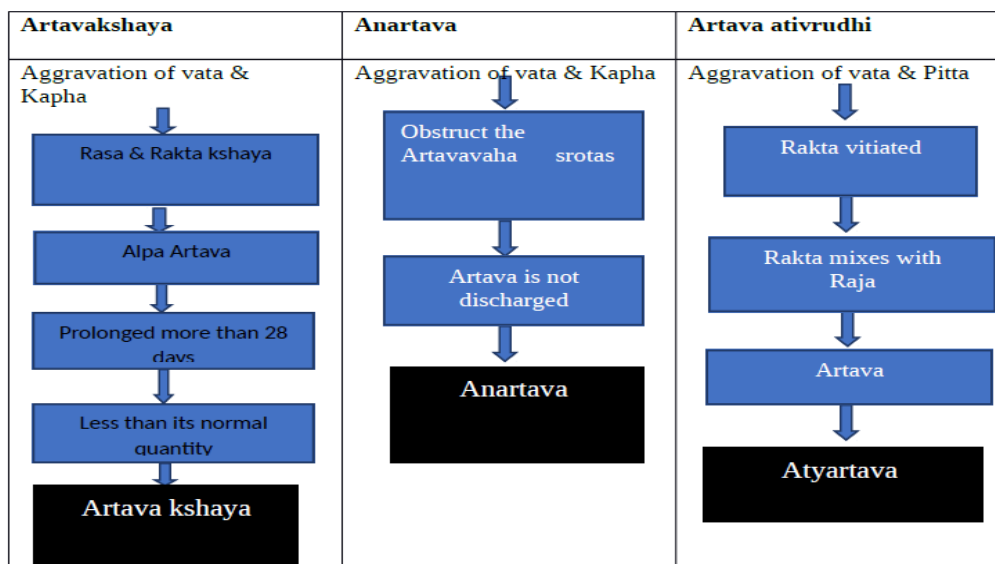
### CAUSES OF OBESITY

ROUTINE ACTIVITIES	MEDICAL CONDITIONS	DRUGS CAUSING OBESITY
Energy output (sedentary lifestyle, vigorous physical activity) Energy intake (Liquid sugar, fat in diet, fast food, lack of fruits & vegetables, Social and psychological factor., Environmental factors- sleep deprivation, Neurogenic abnormalities.	*Hypothyroidism *Cushing's syndrome *Growth hormone deficiency *Eating disorders <sup>[6]</sup>	* Insulin * Sulfonylureas * Atypical antipsychotics * Antidepressant * Steroids * Anticonvulsants (phenytoin, valproate) * Corticosteroids.

### समपापप of सथौलय

### सम्प्राप्ति of सथौलय





### समपापपघटक of सथौलय

- Dosha - Kapha pradhana tridosha.
- Dushya - Rasa, Mamsa, Medas
- Agni - Jataragni, Rasadhatwagni, Medodatwagni
- Ama - Tajjanya ama
- Srotas - Rasavaha, Medovaha, Mamsavaha, svedovaha
- Adhishthana - Sarva shareera
- Roga marga - Bahya
- Udbhava stana - Amashaya
- Sanchara sthana - Rasayani
- Dushtiprakara - Sanga.
- Vyaktasthana - Sarva shareera specially Sphik, udara, stana.

### समपापपतघटक of आतरववापद्

- Dosha - Kapha pradhana tridosha.
- Dushya - Rasa, Rakta
- Agni - Jataragni, dhatwagni
- Srotas - Rasavaha, Raktavaha, Artavavaha
- Adhishthana - Garbhashaya
- Roga marga - Abhyantara
- Sanchara sthana - Yoni marga
- Dushtiprakara - Sanga, Ati pravritti
- Vyaktasthana - Garbhashaya

### OBESITY AND REPRODUCTIVE HEALTH

In adolescent and young women, the age of onset of obesity and that of menstrual irregularities are significantly correlated. In addition, data exist which indicate that the association with menstrual disorders may be more frequent in girls with onset of excess body weight during puberty than in those who were obese

during infancy. The role of adipose tissue is crucial in controlling the balance of sex hormone availability in the target non-fat tissues, indeed, adipose tissue is able to store various lipid soluble steroids, including androgens.

### MENSTRUAL IRREGULARITIES

➤ The menstrual cycle is defined as the interval between the onset of one bleeding episode and the onset of the next.

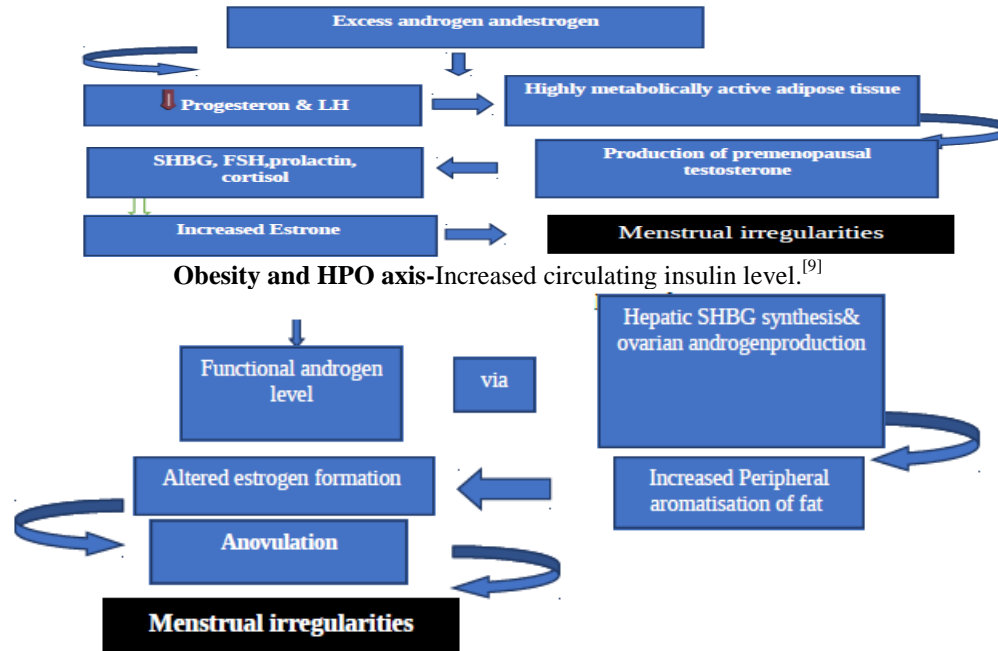
➤ In normal women the cycle averages 28+ or - 3 days, the loss is 20-60ml. Between menarche and menopause most women experience one or more episodes of abnormal uterine bleeding, here defined as any bleeding pattern, outside the normal ranges of frequency, duration or amount of blood loss.<sup>[7]</sup>

### MENSTRUAL IRREGULARITIES CATERGORISED UNDER MODERN SCIENCE ARE

- Menorrhagia(hypermenorrhoea)
- Hypomenorrhoea
- Metrorrhagia(intermenstrual bleeding)
- Polymenorrhoea
- Menometrorrhagia
- Oligomenorrhoea & amenorrhoea.

In obesity associated with menstrual cycle disturbance, approximately 30% of the patients had a regular menstrual cycle, 50% had oligomenorrhoea & 20% amenorrhoea. (Dewhurst's text book of obstetric & gynaecology).<sup>[8]</sup>

## OBESITY CAUSING MENSTRUAL IRREGULARITIES



### रूप

तमतिस्थूलंक्षुद्रश्वासपिपासाक्षुत्स्वप्नस्वेदात्रदौर्गन्ध्यक्रथनगात्रसादाद्गदत्वानिक्षिप्रमेवाविशन्ति  
 ,सौकुमैर्यान्मेदसःसर्वक्रियास्वसमर्थः,कफमेदोनिरुद्धमार्गत्वाच्चाल्पव्यवायो भवति,  
 आवृतमार्गत्वादेवशोषाघातवोनाप्यायन्तेअत्यर्थमतोअल्पप्राणो भवति॥ (S.su 15/32)<sup>10</sup>

### रूप of अपरववापद्

➤ Artava kshaya

आतरवकथेयथोचोतकालादशरनमलपतावायोतनवेदनाच॥

(S.su14/12)<sup>[11]</sup>

➤ Anartava

दोरैरावुतमागरतवादातरवंनरयततससतयाः ॥ (S.sh 2/21)<sup>[12]</sup>

वातकसावतमागारणांतवपवतरमानं..... ॥ (A.sh.1/6)<sup>[13]</sup>

➤ Artavativrddhi

आतरवमनगमदरमततपवततंदौगरनधयंच॥ (S.su 15/16)

### SIGNS AND SYMPTOMS OF OBESITY

**SIGNS:** BMI: Above 30 in males and above 28.6 in females.

Skin fold thickness: reading above 20mm in a man and above 28mm in a woman

Waist-Hip ratio: when W.H.R is above 0.9 in males and above 0.8 in females.

**SYMPTOMS:** Obesity can be diagnosed from gain in weight

➤ Fat is usually disturbed in all over the body but in some cases like cushings syndrome it

➤ may be disturbed in the head, neck, trunk and shoulder.

➤ Protrubent Abdomen is a more common clinical feature of an obese person.

➤ Develpment of skin fold around the axilla below the breast,peritonal region.

➤ Dyspnoea on exertion and general lassitude.

➤ Varicose vein and oedema of ankles are most troublesome features of obese person.

➤ In an obese person, possibility of fungal infection is greater in the skin fold areas.

➤ Menstural disturbances and sterility.

➤ Patient feels difficulty in sitting in squatting position, getting up or sitting in a chair.

➤ Sometimes patient become frusted and depressed means because of their disfigurement.

### ASSESSMENT OF OBESITY

BMI -Body mass index (BMI) is a measure of body fat relative to height.

### CLASSIFICATION BASED ON BMI<sup>[14]</sup>

#### OBESITY CLASS BMI GRADES

➤ Underweight <18.5

➤ Normal 18.5-24.9

➤ Overweight 25.0-29.9

➤ Obesity 30.0-34.9 I

➤ Obesity 35.0-39.9 II

➤ Extreme Obesity > 40 III

➤ Ponderal index = Ht(cm)/cube root of body weight

➤ Broca index = Ht(cm)-100

➤ Lorentz's formula = Ht(cm)-100- Ht(cm)- 150/2(F) or 4(M).

### MEASUREMENT OF WAIST AND HIP CIRCUMFERENCE

Waist circumference (102 cms)

Hip circumference (106 cms)

WHR = 0.96

## TYPES OF OBESITY

• **ANDROID OBESITY (apple type)** : - central or abdominal adiposity - increase WHR & associate with high morbidity risk - ♂ > ♀

• **GYNOID OBESITY (pear type):**

Gynoid obesity (pear type) - Increase fat in periphery and evenly distributed.

Typical female distribution of fat - less health risks.

Women with a "pear" shape tend to store fat in their hips and buttocks. Women with an "apple" shape store fat around their waists.



## INVESTIGATIONS

- History
- Physical examination
- Endometrial biopsy
- Metabolic syndrome
- Blood glucose
- Lipid profile test (LDL, HDL, cholesterol, and triglycerides)
- Screening for thyroid disease, cushing's syndrome and deficiencies of growth hormone
- and sex steroids when clinically indicated.
- ECG when appropriate, Fasting lipid profile.
- Hysteroscopy
- Other diagnostic procedures like Pelvic, abdominal ultrasonography, laproscopy Etc.

## AYURVEDIC APPROACH IN STHAULYA

- Satvavajaya Chikitsa
- Nidana parivarjana (preventive therapy)
- Samsodhana (purification measures)
- Samsamana (curative therapy)
- Modern medical science;

Non pharmacological measures- Patient counselling, social support, behavioral modification, dietary management, Exercise therapy.

Pharmacological measures- Drug therapy

Surgical measures

Prevention of obesity

## WEIGHT LOSS AND MANAGEMENT

Physical Activity & Diet Therapy



## DISCUSSION

Sthaulya is a santarpanotha vyadhi, which involves rasa and medo dushti associated with kapha prakopa. Due to the presence of rasa dushti. It has direct impact on artava which is an upadhatu of rasa, thus this holds good in obese patients with menstrual irregularities. Recent researches have given us an adequate information and results stating that obesity is a major contribution for menstrual irregularity.

In normalcy, Serum cholesterol is converted to oestrodiole → estrogen → ovulation → menstruation. But in case of obesity peripheral aromatization of fat is increased, thereby the process of estrogen formation is altered. Due to excessive estrogen there will be anovulation → menstrual irregularities.

## CONCLUSION

Obesity has long been associated with menstrual irregularity, particularly in women with upper body obesity. Common findings are increased androgen production, decreased SHBG, and increased peripheral conversion of androgen to estrogen. This hormonal imbalance causes artava kshaya or artava vrddhi depending upon the stage.

➤ Charaka explains the line of treatment of sthauilya as.

➤ गुरुचातपरणचेपंसथूलानां.....(Ch.Su21/20)

➤ Drugs which are having ushna & teekshna gunas with Kapha-medo vilayana, Kaphavata shamaka property, thereby removes avarana clears srotomarga thus regularises the agnidushti in turn primely acts on dushita rasa and brings down obesity & corrects functioning of artava. Hence helps in samprapti vighatana of Sthaulya and artava vyapat.

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