

A CASE REPORT: PHYSIOLOGICAL MECHANISM OF MEDOVRIDDHI WITH ITS AYURVEDIC INTERVENTION

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ABSTRACT

The human body is composed of three *doshas*, seven *dhatu*s (body tissues), and three *malas*, with the balanced state known as *Swastha* (health)¹. Among the seven *dhatu*s, *Meda dhatu* (adipose tissue) plays a key role in maintaining oleation, regulating perspiration, and contributing to the body's overall strength¹. However, when *Meda dhatu* becomes vitiated due to improper dietary habits and a sedentary lifestyle, it leads to metabolic disorders, particularly obesity, diabetes mellitus, and polycystic ovary disease (PCOD). Obesity, defined in Ayurveda as *medo vridhhi* or *sthaulya*, is linked to numerous non-communicable diseases (NCDs), including heart disease, stroke, type 2 diabetes, osteoarthritis, and certain cancers (endometrial, breast, ovarian, prostate, liver, gallbladder, kidney)².

This case study examines the Ayurvedic view of obesity, its association with various metabolic disorders, and its impact on overall health as identified by both traditional and modern perspectives. A 55-year-old female patient diagnosed with Class 1 obesity (BMI of 32.9 kg/m²)³, and osteoarthritis, treated at KVG Ayurveda Medical College, Sullia, through an Ayurvedic *Medohara* regimen. The treatment included *ruksha* (drying) and *apatarpana* (reductive)⁴ therapies within the context of *Panchakarma*, along with dietary modifications and therapeutic yoga. This holistic approach aims to reduce excess body fat and alleviate symptoms of osteoarthritis while promoting overall well-being.

INTRODUCTION

Medadhatu, the fourth element in the genesis of the seven primary tissues (*Saptadhatu*), is nourished by its precursor, *Mamsa Dhatu*, through the action of *Medodhatvaagni* (the digestive fire specific to fat). The nutrients are transported to the *Meda Dhatu* via the *Medovaha Srotas* (fat-carrying channels). These nutrients, in addition to nourishing the *meda dhatu*, also support the *Upadhatu* (secondary tissues), such as the *Snayu* (ligaments) and the *mala*, specifically the *sweda* (sweat)⁵.

Medadhatu is composed of *prithvi* (earth) and *ap* (water) *mahabhutas* (elements)¹, and its intrinsic properties include *atigurutva* (heaviness), *atisnigdhatva* (excessive smoothness), *pichhila* (slipperiness), *mridutva* (softness), and *shweta varna* (whitish color). The formation of *meda dhatu* can be disturbed if any of these factors is altered, leading to either an excess (*meda vridhhi*) or deficiency (*meda kshaya*) of fat tissue.

Ayurveda places significant emphasis on the preservation of health in healthy individuals and the treatment of diseases in affected individuals. This is encapsulated in the principle "*Swasthasya swasthya rakshanam, aaturasya vikara prashanam*," which translates to the maintenance of health for the healthy and the alleviation of disorders in the diseased.

An imbalanced state of *dosha* tends to disturb the *dhatu* and other entities of the body. This imbalance is referred to as "*Rogasthu dosha vaishamyam*," which signifies the disturbance of the *doshas*. *dosha* and *dhatu* share a close interrelationship, which is described as "*Ashraya-Ashrayi sambandha*," meaning that one supports and is supported by the other. According to this relationship, *meda dhatu* (fat tissue) is closely associated with *kapha dosha*⁶.

Dietary habits and lifestyle choices that aggravate *kapha dosha* will consequently lead to the vitiation of *meda dhatu*, resulting in either an increase (*vridhhi*) or decrease (*kshaya*) of the fat tissue. This interplay emphasizes the importance of maintaining balance in *Kapha Dosha* to ensure the proper functioning of *meda dhatu* and overall health.

In the pathophysiology of *sthaulya* (obesity), it is evident that the consumption of *guru* (heavy) and *snigdha* (unctuous) foods, along with improper lifestyle choices such as lack of exercise (*avyayama*), sedentary life style and excessive daytime sleep (*divaswapna*)⁷, can increase the *jatharagni* (digestive fire). Concurrently, a weakened *medodhatvaagni* can lead to improper formation of *meda dhatu*, contributing to *medo vridhhi* symptoms, such as the enlargement of the breasts, abdomen, pelvic region, and buttocks region. This imbalance may result in fatigue from

minimal physical activity, difficulty in breathing, and the presence of foul body odour. Additionally, the accumulation of excess *meda* leads to the obstruction (*srotorodha*) of the subsequent *dhatu*, thereby hindering the availability of nutrients required for the formation of the next *dhatu*, *asthi* (bone tissue). This disruption may lead to conditions such as osteoarthritis or osteoporosis, characterized by the degeneration of bone mass.

Sthaulya, or obesity, is one of the leading non-communicable diseases, exhibiting a concerning rise in prevalence. This condition is affecting individuals across all demographic categories, including age, gender, geographical location, and socioeconomic status. The widespread nature of obesity indicates its significant public health impact and underscores the urgent need for effective preventive and therapeutic measures.

Aim - to understand the mechanism of *medo vridhhi* and its management by Ayurveda intervention.

Objectives - 1. To review the literature to understand the pathophysiology of obesity

2. To treat obesity by applying Ayurvedic treatment modalities.

Material and Methods - I. Assessment of *sthaulya*

a) Subjective criteria - *Medo vridhhi* lakshana

b) Objective criteria - Anthropometric measurements

II. Treatment - 14 days IPD treatment with following medicines

1. **Guggulutikta kashayam** - Guggulu, nimba, guduchi, vasa, patola, vyaghri, patha, vidanga, deodaru, yavak shara, sunthi, haridra, sowa, kustha, maricha, kutaj, ajwain, chitrak, kutki, vacha, ativisha and manjishta.
2. **Simhanad guggulu** - haritaki, bibhitaki, aamlaki, gandaka, shudda guggulu and eranda taila.
3. **Ksheerbala 101 capsule** - Bala, ksheera (cow's milk), tila taila, yashtimadhu and water
4. **Kolkulthadi churna** - Kola, kulatha, devadaru, yava, satapushpa, mashaparni, atasi, vacha, kushta, rasna, tila, sarshapa, eranda and engudibeeja
5. **Dhanyamla** - Rice, rice flakes, horse gram, puffed rice, little millet and kodo millet, ginger, lime and ajmoda.
6. **Dasamoola kwatha** - Bilva, agnimantha, shyonaka, patala, gambhari, bruhati, kantakari, shalaparni, prishnaparni and gokshura

Pulse	84/Min	Height	1.52 Meter
Blood Pressure	140/90 mmHg	Weigh	76 Kg
Respiratory rate	18/Min	BMI	32.9 Kg/M ²

Table 1 - Vital data of the patient

Treatment - 14 days in patient treatment was planned.

7 days *rooksha* and *apatarpana* chikitsa

7 days of *snigdha chikitsa* for knee joint and lower back region

Panchakarma therapy

Number of Days	Treatment with Medicine	Internal medication
7 days	1. <i>Udvarthana</i> with <i>kolkulthadi churna</i> full body 2. <i>Dhanyamla</i> + <i>Dasamoola kwatha</i> - Dhara full body	1. <i>Guggulutikta Kashayam</i> 10 ml with 60 ml luke warm water 7 am and 6 pm 2. <i>Trayyodasang guggulu</i> 2 morning and 2 evening with <i>kashayam</i>
7 days	1. <i>Katibasti</i> and <i>janu basti</i> with <i>sahacharadi</i> and <i>murivenna</i> 2. Full body Abhyanga with <i>kottamchukkadi taila</i> 3. <i>Bhaspa sweda</i> with <i>dasamoola kwatha</i>	3. <i>Ksheerbala 101 Capsule</i> 1 BD

Table 2- Treatment given to the patient

Pathyahara

Breakfast: Upma/oats/Dalia/millet (ragi) idali

Sprouted black chana/green gram or soaked mixed daal

Salad of cucumber/beetroot/carrot

Green tea or fresh seasonal fruit juice

Lunch: 1 Roti/small bowl rice/Daal/veg curry/buttermilk/salad

Dinner: 2 Roti + Mix veg curry/Daal

Yoga therapy

Pranayama - *Naadisuddhi* 21 times

Bhramari 11 times

7. **Kottamchukadi taila** - Kottam, chukku, vayambu, shigru, lashuna, karotti, devadaru, siddhartha, rasna, tila taila, curd and chinchha rasa

8. **Murivenna** - Betel leaves, shigru, ghrita kumari, paribhadra, karanja, pyaaz, madanaghanti, shatavari, tandulambu and coconut oil

9. **Sahacharadi taila** - Sahachara, bilva, agnimantha, shyonaka, gambhari, patal, shalaparni, prishnaparni, gokshura, brihati, kantakari, abhiru and tila taila.

Case History - A 55-year-old female patient presented with obesity, accompanied by pain in both knee joints and the lower back. She initially sought outpatient department (OPD) treatment but did not experience significant relief. As a result, she was planned for inpatient department (IPD) treatment. Upon admission, her treatment plan included external *rookshana* therapy in the form of *udvarthana* (herbal powder massage), followed by *dhanyamla* with *dashmoola kwatha dhara* (medicated decoction therapy). This was complemented with internal medications and therapeutic yoga sessions.

Personal History -

Age: 55 years

Sex: Female

Residence: Rural

Education:

Higher secondary

Occupation: Homemaker

Marital status: Married

Socioeconomic status: Higher class

Family history: Obesity, Diabetes mellitus, Hypertension

Food habits - mixed diet with every meal including nonveg

Appetite - increases, eats 4 heavy meals a day and feels hungry within 2 hours of earlier meal.

Dominant Guna in diet: *Guru, Snigdha*

Dominant Rasa in diet: *Madhura* and *lavana*

Sleep: 9 hours night sleep, 1 hour in afternoon and night 9 hours

Exercise: Absent

Bowel Habits: Irregular, once in 2 -3 days with constipation

Menstrual History: Underwent hysterectomy at the age of 40 years

Health Assessment -

Seethali, Seethkari & Sadanta - 5 times each

Surya namaskar - on chair 5 times

Observation and Result - Patient took 3 months OPD treatment for Osteoarthritis in both knee joint and intensity of pain was reduced but due to excess body fat repeatedly patient get Anthropometry Measurement

Anthropometry	Before treatment	After treatment
1. Mid arm circumference	28 cm	27.5 cm
2. Mid Forearm circumference	25 cm	24 cm
3. Chest circumference	102 cm	100.5 cm
4. Abdominal circumference	108 cm	104 cm
5. Hip circumference	98 cm	96 cm
6. Mid-thigh circumference	56 cm	55 cm
7. Mid-calf circumference	37 cm	36.5 cm

Table 3- Anthropometric measurements before and after treatment

Medo Vriddhi Assessment

S.No.	Medovriddhi Symptoms	Before treatment (P/A)	After treatment (P/A)
1.	Chalaspik stanaudara (pendulous waist, breast and abdomen)	Present	Present
2.	Atikshudha (excessive hunger)	Present	Absent
3.	Atipipasa (excessive thirst)	Absent	Absent
4.	Atinindra (excessive sleep)	Present	Absent
5.	Atisweda (excessive sweating)	Present	Present

Table 4- Observation of medho vriddhi of the patient before and after the treatment

DISCUSSION

Asthi is the *dhatu* that is formed next to the *meda dhatu*. in the present case patient was suffering with osteoarthritis is indicative of *asthi kshaya* signifies that *medo vriddhi* or *sthaulya* is over nourishment of *medo dhatu* leads to *medopradoshaja vikara* like obesity, diabetes mellitus, pcod and in the same time due to the *srotorodha* at the level of the *meda dhatu* leads to *medo vriddhi* as well as restrict the nutrition to the to reach the *asthi dhatu* leads to *asthi kshaya*. As *medovriddhi* is *santarpana janya vyadhi* and *kaphadosha janya*. A line of treatment was adopted as *kapha medo hara. agni*, which is the digestive and metabolic fire, is the core cause of the imbalance of *dosha* and *dhatu*. The line of treatment was selected to balance the *agni* by adopting the diet and lifestyle which boost the metabolism, hence correct the *agni* at both the level GIT and cellular. *Rooksha* and *apatarpana* chikitsa in the form of *udvarthana with kolakulthadi churna* and *dhamnyamla along with dasamoola kwatha dhara* reduces pain and inflammation along with reduction in the fat percentage by *kaphahara, medasapravilayana* and *shithilikarana anganam* benefits of *udvarthana* with internal medication with *guggulutikta kasahyam* which act on *sandhi asthi majjagata vata* and alleviates the symptoms of osteoarthritis. To reduce the inflammation and improve the circulation to lumbosacral and knee joints *kati basti* and *janu basti* was given respectively. Yoga therapy in the form of *pranayama* for 21 rounds to have maximum benefits and *suryanamskara* only 5 rounds were given due to restricted movements in multiple joints and at the end of treatment improvement was seen in the range of the movement of major and minor joints and disease-related stress, was also relieved.

CONCLUSION

Medovriddhi (obesity) is a *santarpana janya vyadhi*. From an *Ayurvedic* perspective, the treatment of obesity typically involves the use of *apatarpana* and *rooksha chikitsa*, which target the reduction of excess fat and the restoration of metabolic equilibrium. As obesity is a chronic metabolic syndrome, it cannot

be completely cured in a short span of treatment. It requires consistently following healthy food habits and lifestyle.

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