Ayurvedic intervention with *Pachana Aushadhi* and *Lekhan Basti* in Obesity: A case study

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Abstract

In the 21st century, the prevalence of lifestyle disorders has surged, exacerbated by sedentary habits and increased stress, particularly in the aftermath of the COVID-19 pandemic. This has led to a substantial rise in cases of *Sthaulya*, affecting approximately one-third of the global population with overweight or obese. Obesity, a complex and multifaceted disease, has tripled in global prevalence since 1980, impacting diverse age groups, genders, and socio-economic strata. Although rates have plateaued in some developed nations, the consequences of obesity extend beyond physical appearance, causing both physical and mental harm and significantly affecting overall quality of life. Furthermore, obesity serves as a precursor to various secondary health conditions, including but not limited to diabetes, hypertension, ischemic heart disease, dyslipidemia, and more. *Ayurveda* classifies *Athisthaulya* as one of the eight undesirable conditions under *Ashtanindita purusha*. It arises from the vitiation of *Kapha* dosha, *Vata* dosha, and *Medo dhatu*, aligning with the contemporary understanding of obesity as a chronic metabolic disorder. *Ayurveda*'s holistic approach, incorporating *Pachana chikitsa* and *Lekhana basti*, shows promise in managing *Sthaulya*.

This case study involves a 52-year-old female patient with a weight of 112 kg and a BMI of 41.1. Over 30 days, the patient underwent a comprehensive *Ayurvedic* management plan, including *Pachana aushadhi* for 7 days and *Lekhana basti* for 21 days. The outcome demonstrated a significant weight loss of 11 kg, reducing her weight to 101 kg, and achieving a BMI of 37.1 without complications. This case underscores the potential of *Ayurvedic* interventions in addressing the challenges of obesity.

Keywords: Obesity; Sthaulya; Udgharshan; Lekhanbasti; Pachan; Medoroga

1. Introduction

The *Charaka Samhita* identifies eight categories of undesirable conditions known as *Nindita purusha*, with *Athisthaulya* being one of them.[1] *Athisthaulya* can be associated with obesity, characterized by an excessive accumulation of fat in adipose tissues. Obesity, a chronic and widespread abnormal metabolic condition, impacts millions of individuals globally. Projections indicate that by the year 2030, approximately 1.12 billion adults will fall under the category of obesity, and 2.16 billion will be classified as overweight worldwide.[2]

In recent years, there has been a significant upswing in the prevalence of lifestyle disorders. With a population of 300 million, the adoption of unhealthy habits such as consuming junk food and alcohol has become a prevailing trend across all age groups. Factors such as a sedentary lifestyle due to remote work and the pervasive stress following the COVID-19 epidemic have contributed to a notable surge in *Sthaulya*, or obesity.[3] Obesity, characterized by a body mass index (BMI) equal to or greater than 30, is a pressing health concern.[4] In *Ayurveda*, obesity can be correlated with *Sthaulya* or *Medoroga* within the category of *Santarpana Diseases*.[5] It is considered a disorder of *Medovaha strotas dushti* caused by the intake of *Guru* (heavy), *Madhur* (sweet), and *Snigdha* (unctuous) *Aahar* (food).[6] *Ayurvedic* principles...
advocate three treatment approaches: Nidan parivarjana (elimination of causative factors), Shaman (pacification), and Shodhan (purification). According to Acharya Vagbhata, the line of treatment involves 'Guru cha Apatarpanam', and in this case, Apatarpan chikitsa is employed to address obesity by reducing the excessive accumulation of fat. Following a comprehensive assessment, including detailed history-taking and examination, it was observed that the aetiology and symptoms of the case closely resembled Sthaulyata, as outlined in Ayurvedic texts. In the context of Sthaulya, the excess intake of food leads to the accumulation of Meda (fat) within the body. This accumulated fat, in turn, results in Margaaravana (obstruction of channels), impeding the flow of nutrition to subsequent Dhatus (tissues). This process causes the vitiation of Vata, which then travels through the Kostha (digestive tract), stimulating Agni (appetite). The heightened appetite prompts the individual to consume more food, leading to a further buildup of Meda (fat) in the body, ultimately culminating in the manifestation of Sthaulya (obesity). Therefore, Sthaulya (Obesity) can be perceived as a condition arising from the obstruction caused by the excessive accumulation of fat due to an imbalanced nourishment process, rooted in Medoja (fat-based) factors.

After initiating the treatment, the patient exhibited a positive response within a short period. This encouraging outcome prompted us to document the case comprehensively, to further its potential application in the treatment of similar cases.

2. Patient information

2.1. Case Report

On May 10, 2023, a 52-year-old female patient presented at the Kayachikitsa outpatient department (OPD) with a medical history spanning 3-4 years of increased body weight, Kshudra shwas (dyspnea), Daurbalya (weakness), and Sandhishool (pain in both knee joints) persisting for the last 3 months. Additionally, she reported experiencing Atitrushna (excessive thirst), Atikshudha (excessive hunger), and Swedabadh (excessive sweating) over the past year. Remarkably, the patient exhibited almost all of the eight symptoms of Atisthula, as elucidated by Acharya Charak. This comprehensive set of symptoms leads to the diagnosis of Sthaulya.

2.2. Top of Form

2.2.1. History of personal illness

The patient was normal 3 years ago, but gradually developed all the above symptoms which increased in 3 months. Thus, to overcome this she came to our hospital for treatment.

2.2.2. History of other illnesses

The patient had no other major illnesses like DM, HTN, Hyperthyroidism, or PCOS.

2.2.3. Family History - Sthaulya

2.2.4. General Examination –

- Blood Pressure – 120/70 mm. hg.
- Pulse – 84/min.
- Temp – 98.8 F
- Respiration Rate – 18/min
- Height – 165 cm
- Weight – 112 kg
- Body mass index – 41.1
- Chest circumference – 114 cm
- Mid arm circumference – Rt - 33, Lt - 34 cm.
- Abdominal circumference – 117 cm.
- Waist – 114 cm
- Mid tibial circumference – Rt – 60 cm, Lt 57 cm.
- Hip circumference – 133 cm

2.2.5. Astavidha pariksha

- Nadi (Pulse) – Kapha 17/min.
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- **Mutra** (urine) – 3-4 times a day
- **Mala** (Stool) – **Asamyak** (unsatisfactory passage of stool)
- **Jeevha** (tongue) – **Saam** (white coated tongue)
- **Shabda** (sounds) – **Prakrut**
- **Sparsh** (touch) – **Anushna Sheeta** (afebrile)
- **Druk** (vision) – **Prakrut** (normal eye site)
- **Akriti** (body structure) – **Sthula** (Obese)

2.2.6. **Dashaviddha Pariksha**

- **Prakruti** (constitution) – **Vatakaphaja**
- **Vikruti** (imbalance) – **Medhodhatu dushti**
- **Saar** – **Rasa**
- **Samhana** (body compactness) – **Pravara**
- **Satmya** (adaptability) – **Madhyama**
- **Satva** (mental status) – **Madhyama**
- **Aaharshakti** (digestive power) – **Madhyama**
- **Praman** – **Adhik**
- **Vaya** (Age) – **Madhyama**
- **Vyayamshakti** (exercise capacity) – **Madhyama**

2.2.7. **Srotas Parikshan**

- **Rasavaha**: Hridaya Nadi Dashadhamanya- **prakrut**
- **Medovaha**: Vrukka – **prakrut**, Vapavahan – **vrudhi**, **Sphika-stana-udar – lambanam**
- **Swedavaha**: Meda Lomakupa – **Asweda**

2.3. **Hetu Sevana** *(Causal Factors Consumption)*

2.3.1. **Aaharatmak** *(Dietary Factors)*

- **Atibhojan** (5-6 meals a day), **Guru Aaharsevan** (Excessive consumption of heavy food) such as frequent intake of non-vegetarian-food like mutton thrice a week, chicken twice a week, **Madhur aahar sevan** (sweet foods), **Sheeta Aaharsevan** (Excessive consumption of cold diet like Ice cream) **Snigdha aahar sevan** (Oily food like vada pav, kanda bhaji), **Gramya rasa sevana** (Usage of animal’s meat soups), **Mahish Dugdha** (buffalo milk), **Dadhi** (curd) etc.

2.3.2. **Viharatmak** *(Lifestyle Factors)*

- **Avyayam** (Lack of Exercise), **Avyayava**, **Divasvap** (Daytime Sleeping), **Sukha shaiyya** (Excessive Rest), **Snan sevan** (Frequent Bathing), **Gandhamalya sevana** (Exposure to strong fragrances), **Swapna prasangat** (excessive sleeping).

2.3.3. **Mansik** *(Psychological Factors)*

- **Harshanityatvat** (Frequent Happiness), **Achintan** (Absence of Worry)

2.3.4. **Samprapti Ghatak** *(Pathogenic Factors)*

The following factors play a major role in the **samprapti** of Sthaulya.

- **Dosha** – **Kapha** – **Kledaka**
  - **Vata** – **Samana**, **Vyana**
- **Pitta** – **Pachak**
- **Dushya** – **Meda**, **Rasa Dhatu**
- **Srotas** – **Medovaha Srotas**
- **Srotodushi** – **Margavrodha** – **Sanga**
- **Agni** – **Jatharagni**, **Rasa and Meda Dhatvagni**, **Parthiva**, **Apya**, **Bhutagni**
- **Udhhavasthana** – **Amashaya**
- **Roga Marga** – **Bahya**
- **Prasara** – **Rasayani**
- **Ama** – **Dhatvagni Mandyajanit Ama**, **Jatharagni Mandyanit Ama**.
Table 1 represents the timeline of the occurrence of events in the present case study. It represents all the symptoms along with the previous treatment taken by the patient and the results obtained.

Table 1 Timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 2018</td>
<td>In 2018, the patient lost her job, leading to a sedentary lifestyle and weight gain.; being stressed about it she joined a gym.</td>
</tr>
<tr>
<td>May 2019</td>
<td>She started getting cramps while gyming thus she left and went for a nutrition course, there along with nutritional shakes some exertional dance exercise was started. Here she lost 4-5 kg. weight.</td>
</tr>
<tr>
<td>2020</td>
<td>In Jan 2020, she got a skin reaction of hypopigmentation on both her upper and lower extremities and consulted a dermatologist who suggested her to stop nutrition supplements. Thus she stopped that course and consulted a naturopath centre in badlapur, by then she had regained the lost weight.</td>
</tr>
<tr>
<td>2021</td>
<td>She was admitted to that naturopath foundation for 8 days from June 8 to June 15 and was discharged with 3 kg weight loss and medicinal tablets for further reduction of weight. Later she found no results thus the treatment was stopped on 20 July 2021.</td>
</tr>
<tr>
<td>2022</td>
<td>Being fed up with all the treatment patient didn’t take any treatment from 20 July 2021 to 9 May 2023 and had a major weight gain of 12-13 kgs.</td>
</tr>
<tr>
<td>10th May 2023</td>
<td>She visited the OPD of Kayachikitsa Department at Ayurved Mahavidyalaya, Sion, Mumbai with complaints of Kshudra shwas (dyspnea), Daurbalya (weakness), and Sandhishool (pain in both knee joints) persisting for the last 3 months. Additionally, she reported experiencing Atitrushna (excessive thirst), Atikshudha (excessive hunger), and Swedabadh (excessive sweating) over the past year.</td>
</tr>
</tbody>
</table>

All routine blood investigations, including

CBC – HB – 11.8 g/dl; RBC – 4.1/L; WBC – 9,500/mcL; Platelet – 199000/mcL; ESR – 14 mm/hr; SGOT – 16U/L; SGPT – 34U/L; Alkaline phosphatase – 45U/L; Sr Creatinine – 0.9; CRP – 1.0; Sr.Calcium – 10.1 mg/dl; Vit D3 – 51 nmol/L, were within normal limits.
All eight symptoms of Sthaulya were graded as follows:
- No symptoms: -
- Mild symptom: +
- Moderate symptom: ++
- Severe: +++

2.3.5. Treatment Schedule:
The proposed treatment regimen consisted of:

Table 2 Treatment Schedule

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Chikitsa given</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1 – Day 7</td>
<td>4/11/2023 - 10/11/2023</td>
<td>Pachana aushadhi</td>
</tr>
<tr>
<td>Day 8 and Day 9</td>
<td>11/11/2023 - 12/11/2023</td>
<td>Swedan, Anuvasan basti</td>
</tr>
</tbody>
</table>

- **Siddha jala** – A decoction prepared by boiling equal quantities of *Trifala*, *Musta*, and *Vidanga* with water until it reduces to half.
- **Udvartana** - Application of a powder mixture consisting of *Triphala*, *Musta*, *Sarshap*, and *Yava* on alternate days.
- **Shaman Kalpa** – Administration of *Trishila guggulu*, a combination of *Triphala* (375 mg), *Shilajeet* (125 mg), and *Guggul* (500 mg), at a dosage of 1 gm three times daily after meals with lukewarm water. [Paradkar HS, Trishila Guggul]
- **Pachak Aushadi** – Administration of *Aampachak vati* and *Chitrakadi vati*, both at a dosage of 500 mg three times daily before meals, for the initial 7 days.
- **Swedan** – Application of Peti swed.
- **Anuvasan basti** – Administration of 120 ml of *Til Tel* for 2 days.
- **Lekhan basti** – Administration of approximately 840 ml for 21 days. [ingredients shown in Table 3]

Table 3 Lekhan basti ingredients [10]

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Dravya</th>
<th>Matra</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><em>Trifala kwath</em></td>
<td>16 Pala – 240 ml</td>
</tr>
<tr>
<td>2</td>
<td><em>Gomutra</em></td>
<td>3 Pala – 120 ml</td>
</tr>
<tr>
<td>3</td>
<td><em>Saindhav</em></td>
<td>1 Aksha – 10g</td>
</tr>
<tr>
<td>4</td>
<td><em>Honey</em></td>
<td>4 Pala – 160 ml</td>
</tr>
<tr>
<td>5</td>
<td><em>Yavakshar</em></td>
<td>3 Karsha – 30 gm</td>
</tr>
<tr>
<td>6</td>
<td><em>Til Tel</em></td>
<td>6 Pala – 240 ml</td>
</tr>
<tr>
<td>7</td>
<td><em>Ushakadi gana</em> (<em>Shilajit, Kasis bhasma, Hingu, Vacha, Tutha</em>)</td>
<td>2 Pala – each 80 mg</td>
</tr>
</tbody>
</table>

3. Observation and Results
Following a 30-day treatment regimen, notable improvements were observed in the signs and symptoms of Sthaulya. Clinical examination indicated enhancements in both subjective and objective parameters, reflecting the effectiveness of the treatment. [as shown in Table 5]
Table 4 Subjective Assessment

<table>
<thead>
<tr>
<th>Lakshanas</th>
<th>0 day</th>
<th>7th Day</th>
<th>15th day</th>
<th>30th day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kshudrashwas</td>
<td>+++</td>
<td>++</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Angagaurvta</td>
<td>+++</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Trushna, Atikshudha</td>
<td>++</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Daurbalya</td>
<td>+++</td>
<td>++</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>B/L Knee joint pain</td>
<td>+++</td>
<td>++</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Swedabad</td>
<td>+++</td>
<td>++</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 5 Objective Assessment

<table>
<thead>
<tr>
<th>Observation</th>
<th>Before Treatment</th>
<th>After Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>112.8 kg</td>
<td>101.3 kg</td>
</tr>
<tr>
<td>Body Mass Index</td>
<td>41.1</td>
<td>37.1</td>
</tr>
<tr>
<td>Chest Circumference</td>
<td>114 cm.</td>
<td>108 cm</td>
</tr>
<tr>
<td>Abdominal Circumference</td>
<td>117 cm</td>
<td>102 cm</td>
</tr>
<tr>
<td>Mid Arm Circumference</td>
<td>Rt hand 33 cm, Lt hand 34 cm</td>
<td>Rt hand 29 cm, Lt hand 30 cm</td>
</tr>
<tr>
<td>Mid-Thigh Circumference</td>
<td>Rt leg 60 cm, Lt leg 57 cm</td>
<td>Rt leg 56 cm, Lt leg 53 cm</td>
</tr>
<tr>
<td>Waist Circumference</td>
<td>114 cm</td>
<td>109 cm</td>
</tr>
<tr>
<td>Hip Circumference</td>
<td>133 cm</td>
<td>129 cm</td>
</tr>
</tbody>
</table>

4. Results

Upon initial consultation, the patient presented with a weight of 112 kg, which subsequently decreased to 101 kg throughout 6 follow-up sessions. This represents a significant reduction of 11 kg in weight within 30 days, accompanied by observable fat reduction.

The patient’s Body Mass Index (BMI) decreased from 41.1 to 37.1, indicating a substantial improvement in body composition and weight management.

Anthropometric measurements revealed a reduction in circumference, as detailed in Table 6.

5. Discussion

Table 6 Mode of action of all ingredients of Basti

<table>
<thead>
<tr>
<th>Sr no</th>
<th>Dravya</th>
<th>Mode of Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Gomutra [12]</td>
<td>Lekhan, Bhedan by tikshna, ushna, kaphaavataghna guna</td>
</tr>
<tr>
<td>3</td>
<td>Saindhav[13]</td>
<td>Deepan, Pachan, Ruchikar, Chedan</td>
</tr>
<tr>
<td>6</td>
<td>Til tel[16]</td>
<td>Stratoshuddhikar, and Vatashamak, Fat soluble and thus easily absorbed from colon.</td>
</tr>
<tr>
<td>7</td>
<td>Ushakadi gana [17]</td>
<td>Lekhan, Bhedan, Pachana.</td>
</tr>
</tbody>
</table>
Lekhan basti, categorized as a type of Niruha basti, utilizes Lekhan dravya to dislodge accumulations of Meda, Kapha, and Kleda. This formulation, characterized by its Tikshna Guna (sharpness), primarily targets body wasting (Apatarpana).

Udvartana[18] involves the application of herbal powders across the body, facilitating the breakdown and elimination of fat.

Koshna Siddha Jalpana [19] refers to the consumption of warm water infused with Kledaghna and Lekhana Dravya, aiding in the combustion of excess fats and promoting Pachana (digestion).

Top of Form

Shaman aushadi

Trishila guggul [20] composed of Triphala, Shilajit, and guggul, has demonstrated efficacy in reducing fat accumulation and consequently aiding in weight loss.

Chitrakadi vati [21] renowned for its Laghu, Tikshna, and Ruksha Gunas, along with its Katu and Tikta Rasa, enhances Agni (digestive power) by alleviating aggravated Kapha. Its Usna Virya and Tikshna, Snigdha Guna (properties) counteract Vata dosha, further promoting digestion.

Aamapchaka vati, formulated with Sunth, Ativisha, and Musta, exhibits Dipana and Pachana properties. These attributes contribute to increasing Agni (digestive power) and facilitating the digestion of undigested food (Ama)[22]

According to Ayurveda, the patient was diagnosed with Sthaulya characterized by an imbalance of Kapha and Vata doshas, as well as impairment of the Medovaha srotas and disturbances in the Rasa, Mansa, and Meda dhatus. The patient’s sedentary lifestyle, consumption of heavy, sweet, and oily foods, along with lack of exercise and poor dietary habits contributed to this condition.

Clinically, the patient presented with increased body weight (Sphik stan udar lambanam), fatigue, and bilateral knee joint pain. Following the principles of Santarpana samprapti the treatment approach primarily focused on Apatarpana chikitsa aiming at reducing excess body fat. This included therapies such as Lekhan basti and udvartana, along with Shaman and lekhan medicines. Significant improvements were observed, prompting the patient to continue the prescribed treatment regimen along with Siddha jalapana and Udvardana. A follow-up appointment was recommended to monitor progress and make further adjustments as needed.

6. Conclusion

In conclusion, the lifestyle disorder Sthaulya, or obesity, is effectively managed through a combination of lifestyle modifications, internal medications, and Panchakarma therapies in Ayurveda. Recognized as a Santarpanjanya roga, Sthaulya necessitates the Apatarpana approach, focusing on the reduction and elimination of excess adipose tissue. Lifestyle modifications entail Nidan parivarjana, avoiding factors that aggravate Rasa dhatu, Meda dhatu, and Kapha dosha. Internal medications target the reduction of Kleda, or excessive moisture, within the body. Panchakarma treatments involve procedures akin to Apatarpana to facilitate weight loss.

In the presented case study, interventions such as Sarvanga Udvartana (herbal powder massage), Bashpa swedan (herbal steam therapy), Lekhan basti (medicated enema for scraping off excess fat), Shaman aushadi (medicinal therapy for balancing doshas), along with dietary modifications were employed. These interventions resulted in significant weight reduction for the patient, demonstrating effective management of the eight Mahadosh associated with obesity.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.
Statement of informed consent

The authors certify that they have obtained the patient's consent, for reporting her case along with the images and other clinical information in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

Reference


[16] Vaidya Yadavji Trikamji Acharya, Susrutasamhita of Susruta with the Nibandhasangraha commentary of Sri Dalhanacharya, Varanasi: Chaukhamba Surbharati Publisher; 2023, Sutra Sthana, Chapter 45/112 p. 205.


