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Management of *Sthaulya* through *Tailapana* and *Virechana karma*: A Case report

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Abstract:

Obesity is one of the most challenging health issues in the present scenario, which has almost taken the shape of an epidemic and affected the developed as well as the developing nations across the globe. Obesity exposes an individuals' susceptibility to several diseases which may affect multiple systems. Acharya Charaka has quoted *Ati-sthaulya* under the eight varieties of impediments which are designated as *Ashtau-nindita purusha*. *Ati-sthaulya* is one among eight such morbidities. Modern medications available for obesity have not yet been established to be as effective as proper diet, and exercise still remains the mainstay of obesity management. Ayurveda, though incorporating *Panchakarma* treatment modalities, may be considered as an alternative for management of obesity and correction of *Doshas*, *Dhatus*, and *Malas* involved at the basic level. This work was aimed to study and evaluate the effect of *Virechana karma* (~purgation therapy) in the management of *Sthaulya*. A 33-year-old male obese patient was treated with *Virechana karma* after *Deepana* (~appetizers), *Pachana* (~digestives) followed by *Snehapana* (~internal administration of oleaginous substance) with *Murchita taila*. After the treatment, significant reduction was noticed in weight as well as in the anthropometric measurements. Significant changes were also observed in the biochemical markers such as lipid profile after *Snehapana* and after *Virechana karma*. No untoward effects with this therapy were observed during the treatment regimen.

KEYWORDS: Obesity, *Panchakarma*, *Sthaulya*, *Virechana karma*

INTRODUCTION

Obesity refers to an excessive accumulation of fat in the body, resulting in impaired health. India saw a marked upsurge in obesity index from its 19th position for both men and women in 1975 – 5th and 3rd positions, respectively, in 2014,^[1] reflecting increasing the prevalence of obesity. In the past ten years, the number of obese people has doubled in the country as per the National Family Health Survey-4 (NFHS-4).^[2] Junk food, alcohol consumption, and sedentary life styles are leading to silent self-destruction, making one in every five Indian men and women either obese or overweight. The prevalence rate of obesity and central obesity in India varies

from 11.8% to 31.3% and 16.9% to 36.3%, respectively.^[3] Abdominal obesity is one of the major risk factors for cardiovascular disease. The incidence of chronic diseases such as diabetes mellitus and hypertension is also higher among obese individuals. As per the WHO, obesity has reached epidemic proportions globally, with more than one billion adults overweight and at least 300 million of them obese. The key causes are increased consumption of energy dense foods, high in saturated fats and sugars, and reduced physical activity.^[4]

In Ayurveda, obesity has been described as *Sthaulya* or *Medoroga* in *Santarpanotha vikara*,^[5] i.e., the disease caused by *Ayathopachaya* (~over nourishment). In case of an obese person,

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the site of metabolic disturbances is *Medo dhatu* and *Medovaha strotas* (~fat channels) are chiefly affected. Causes of *Sthaulya* may be of two types; exogenous causes comprise potentiating diet and lifestyle while endogenous causes include *Dosha*, *Dhatu*, and *Mala* and *Srotasa* as chiefly involved. *Nidana* (~causative factors) of *Sthaulya* can be broadly classified as *Aharatmaka* (~diet oriented), *Viharatmaka* (~due to faulty lifestyle), and *Manasika* (~psychological factors). *Aharatmaka nidana* mainly includes excess intake of *Madhura* and *Snigdha ahara* (~sweet and unctuous diet).^[6] Acharya Charaka has placed *Ati-sthauhya* under the eight varieties of morbidities, which are mentioned as *Ashtau-nindita purusha* (~eight despicable persons); *Ati-sthauhya* comprises one of them.^[7] Acharya has listed eight defects underlying *Sthula Purusha*,^[8] i.e., *Ayubrasa* (~shortening of lifespan), *Javoparodha* (~hampered movements), *Alpa-vyavayita* (~decreased sexual desire and indulgence), *Daurbalya* (~debility), *Daurgandhya* (~foul smell), *Swedabadha* (~profuse sweating), *Ati-trisha* (~excessive thirst), and *Ati-keshadha* (~excessive hunger). Acharya Vagbhata opines that derangement of *Agni* (~digestive power) leads to the production of *Ama*^[9] (~undigested or partially digested food), which disturbs *Dhatvagni* of fatty tissues and blocks proper formation of further tissues. Improperly formed fatty tissue accumulates in the body producing *Sthaulya*. Line of treatment for it is *Apatarpana*^[10] (~depletion therapy) and *Langhana* (~which produce lightness in the body), which can be performed by both *Shamana* and *Shodhana karma*.

CASE REPORT

A 33 year old male patient came to the outpatient department, with complaints of gradually increasing body weight since past ten months. The Associated complaints presented by him were fatigue with minimal work and pain over the right side of the lower back region. The patient was diagnosed with diabetes mellitus 2.5 years back, for which he was taking Metformin 500 mg once daily. His history revealed that the patient had no history of hypertension, bronchial asthma or hypothyroidism. There was no positive family history of increased weight and obesity. Patients' diet predominantly comprised rice and potatoes and less of other green vegetables and fruits. There was no history of alcohol, tobacco, or drug addiction, but an over consumption of soft drinks (1–1.5 L of coke per day) and frequent and excessive use of chocolates were present. The patient was on Metformin (500 mg/day) for the past 2.5 years.

Ashtavidha^[11] and *Dashavidha pareeksha*^[12] along with general and systemic physical examinations with anthropometry of the patient were conducted. Investigations showed normal

hematological and blood sugar reports, but changes were seen in the biochemical tests with special reference to lipid profile. Considering the clinical examinations, Body Mass Index (BMI) ($>29.99 \text{ kg/m}^2$), and laboratory investigation findings, the patient was diagnosed as Obese Class I.

TREATMENT PROTOCOL

Virechana karma after *Deepana* (~appetizers) and *Pachana* (~digestives) followed by *Snehapana* (~internal administration of *Sneha*-like oil or cow *Ghee*) was planned in this case. The details of the procedure are described below:

Purva karma (~Pre-operative procedure)

The patient was administered with two g each of *Guduchi* (*Tinospora cordifolia* Willd.), *Haritaki* (*Terminalia chebula* Retz.), and *Shunthi* (*Zingiber officinale* Roscoe) thrice a day before food for three consecutive days for *Deepana* and *Pachana*. After observing proper appetite and bowel movements, the patient was administered with *Arohana shodhana purva snehapana* (~gradually increased dose of *Sneha*) with *Murchita taila*^[13] for four consecutive days with initial dosage of 50 ml and then increased to 100, 150, and 200 ml on 2nd, 3rd, and 4th day, respectively. After appearance of *Samyak snigdha lakshana*^[14] (~symptoms of proper internal oleation) after 4th day of *Snehapana*, the patient was advised *Sarvanga abhyanga* (~whole-body massage) with *Murchita taila* and *Swedana* by *Sarvanga bhashpa sveda* (~whole-body fomentation with medicated vapors) for the next three days.^[15] During these three days, light, warm, and liquid diet including green gram soup and rice was advised along with citrus fruits such as oranges. Thereafter, on the 8th day in the morning, *Virechana karma* was performed.

Pradhana karma (~Main procedure)

Before administration of *Virechana yoga*, *Abhyanga* with *Murchita taila* and *Bhashpa swedana* has been given at morning on the day of *Virechana*. Vitals including temperature, pulse, and blood pressure were recorded at regular interval during the *Pradhana karma*. Following the classical instructions, *Virechana yoga* was administered after passage of *Kapha kala*,^[16] i.e., about 10 am on empty stomach. *Virechana yoga* (~purgative formulation) was *Triuruk lehya*^[17] 80 g, *Katuki churna* (~*Picrorrhiza kurroa* Royle ex Benth) 10 g, and *Triphala kashaya* 100 ml. The patient was advised to take warm water repeatedly at a gap of every 15–20 min to support proper purgation. After that, the patient was monitored carefully. Numbers of *Mala vegas* after administration of *Virechana* drug were counted. End point which is indicated by the symptoms of *Samyak virechana*^[18] (~proper symptoms of medicated purgation as per classics) was seen in the patient,

which include cessation of purgation on its own, feeling of lightness in body, improved appetite, feeling of well-being, and mild weakness. The end point indicator includes the *Kaphanta* (~presence of mucous) along with stools in the last one or two *Vegas*. He was administered normal water once the symptoms of proper *Virechana* appeared to cease more bowel evacuations.

Pashchata karma (~Post-operative procedure)

No untoward effects were seen during the *Virechana karma*. On the basis of *Madhyama vegiki shuddhi* (~moderate number of bowel evacuations), the patient was advised specific dietary regimen accordingly for five days, i.e., *Samsarjana karma*.^[19] This included *Peya* (~watery gruel prepared from Barley) for first two diets, followed by *Yavasaktu* (~semi-liquid gruel prepared from barley), *Yusha* (~soup prepared from green gram), and *Mamsarasa* (~Mutton soup) for subsequent two diets each, respectively. Barley was used owing to the history of diabetes in the patient. Normal diet was restored with proper *Pathya* (~advisable food items and lifestyle) and *Apathya* (~food items and lifestyle to be avoided).

FOLLOWUP AND OUTCOME

After *Deepana-Pachana*, appetite was relatively better, improved bowel movements, and proper evacuation was reported by the patient. A decrease in body weight from 104 to 101 kg and BMI from 30.39 to 29.51 kg/m² was observed after completion of *Shodhananga Snehapana* (~internal oleation), i.e., there was a relative feeling of lightness in abdomen and improved appetite and sleep after *Snehapana* [Table 1]. On measuring, reduction in the mid arm circumference, mid leg circumference, circumference of thigh, and abdominal girth was noticed [Table 2]. There was a reduction in total lipid content, cholesterol levels, Very Low Density Lipoproteins (VLDL). However, an increase in the levels of High Density Lipoproteins (HDL) and Low Density Lipoproteins (LDL) was noticed after *Snehapana* [Graph 1].

After *Virechana*, further decrease in body weight to 99 kg and BMI to 28.93 kg/m² was observed; abdominal lightness and increased appetite were reported by the patient [Table 1]. On palpation, abdomen was soft and no significant weakness was reported by the patient. Anthropometric measurements suggested of decreased body weight and reduction in the mid arm circumference, mid leg circumference, circumference of thigh, and

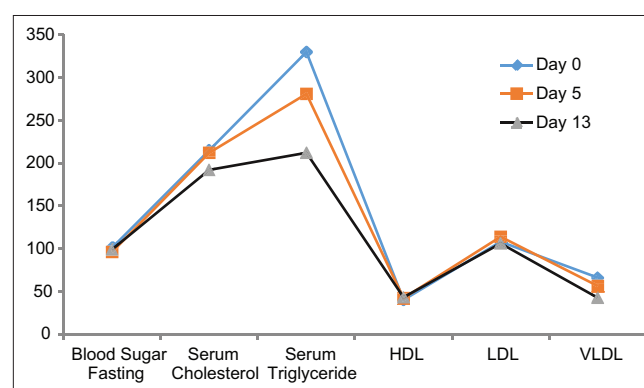
abdominal girth [Table 2]. There was a reduction in total lipid content, cholesterol levels, and VLDL. However, an increase in the levels of HDL and LDL was noticed after *Virechana*. Blood sugar levels were within normal limits before and after the treatment [Graph 1]. Further decrease in body weight to 98 kg and BMI to 28.63 kg/m² was seen after completion of *Samsarjana karma* [Table 1].

The patient was advised to discontinue anti-diabetic drug he has been taking, on the day of *Virechana* and during *Samsarjana karma* owing to his normal blood sugar levels before treatment. After completion of the treatment and during follow-up also, his blood sugar levels were within normal limits due to which he did not take any further medication up to a month. However, he was advised to consult his diabetologist and regularly monitor his blood sugar profiles.

On discharge, the patient was advised to take combination of *Triphala* (2 g), *Guduchi* (2 g), *Vidanga* (1 g), *Yashtimadhu* (1 g), and *Katuki* (500 mg) in powdered forms twice daily with warm water before meals. This drug regimen was planned for one month, and specific diet was advised to the patient which included more use of fibrous diet, green and leafy vegetables, and unrefined food substances along with the consumption of warm water and routine brisk walking, which has to be gradually increased and maintained as per the caliber of the patient.

DISCUSSION

Considerable improvement was present in weight [Table 1] and anthropometric measurements [Table 2] along with



Graph 1: Graphical representation of variations in biochemical markers

Table 1: Weight and body mass index

Parameters	Before treatment	After <i>Snehapana</i> (5 th day)	After <i>Virechana</i> (9 th day)	After <i>Samsarjana karma</i> (15 th day)
Weight (kg)	104	101	99	98
BMI (kg/m ²)	30.39	29.51	28.93	28.63

*Height-185 cm. BMI: Body mass index

Table 2: Anthropometry

Circumference	Before treatment	After <i>Snehapana</i> (Day 5)	After <i>Virechana</i> (Day 9)	After <i>Samsarjana Karma</i> (Day 13)
Chest (inch)	43	42	42	41
Waist (inch)	45	43.4	43	42.5
Hip (inch)	46	45	44.5	44
Mid Abdomen (inch)	45	43.4	43	43.5
Mid Thigh (inch)				
Right	19	18.5	18.5	18
Left	18	17.8	17.4	17.2
Mid arm (inch)				
Right	11.7	11	10	10
Left	11.3	11	11.5	11

the biochemical markers [Graph 1], which were assessed regularly. Body is first prepared with *Deepana-Pachana*, *Snehapana*, and *Swedana*, for proper saturation of *Doshas* thereafter their elimination through *Shodhana* at proper time through nearest possible route according to the strength of the patient. *Deepana* and *Pachana* do kindling of *Agni* and digestion of *Ama*, respectively. *Sneha* will not undergo proper digestion if *Agni* is not normal, which may lead to various complications.

Snehapana is the most important *Purva karma* for *Vamana* and *Virechana*. The properties of *Sneha dravyas* are *Sukshma* (~minute), *Sara* (~non stable), *Snigdha* (~unctuous), *Drava* (~liquid), *Picchila* (~slimy), *Guru* (~heavy), *Shita* (~cold), *Manda* (~dull), and *Mridu*^[20] (~soft). Charaka explains that administration of *Sneha* helps in bringing the *Dosha* from *Shakha* to *Koshtha* (~abdominal cavity) for the expulsion by *Vridhhi* (~excessive increase of *Dosha*), *Vishyandana* (~liquefaction of *Dosha*), *Paka* (~digestion of *Dosha*), *Srotomukha vishodhana* (~cleansing of channels), and *Vayoscha Nigraba*^[21] (~downward movement of *Vata*). It is carried for 3–7 days based on the digestive capacity of the patient, and symptoms of proper saturation with *Sneha* which are *Vatanulomana* (~regulation of flatus), *Deeptagni* (~improvement in digestion), *Snigdhavarcha* (~unctuous stools), *Snigdhagatra* (~unctuousness on skin), and *Mardavata* (~softness in the body) appear. These were the symptoms seen in the patient which are the end point indicators to cease *Snehapana*, subsequently followed by *Abhyanga* and *Swedana* for three days.

Tila taila (Sesame oil) is subjected to *Murchana*^[22] by boiling with the *Kalka* (~paste) of *Triphala* (*Haritaki*, *Amalaki*, and *Bibhitaki*), *Manjishtha* (*Rubia cordifolia* L.), *Haridra* (*Curcuma longa* Linn.), *Lodhra* (*Symplocos racemosa* Roxb.), and *Musta* (*Cyperus rotundus* Linn.). *Taila murchana* process helps to improve color, aroma, and overall qualities of the oil and makes it palatable and facilitates easier digestion by removal of *Ama dosha* of *Tila taila*.

Tila taila is best *Sneha dravya* among the oils of plant sources.^[23] *Taila* is used widely for internal and external conditions. It alleviates *Vata* but, at the same time, does not aggravate *Kapha*.^[24] From therapeutic point of view, *Taila* when treated with other drugs easily imbibes the properties of those drugs. *Vagbhatta* explains the importance of *Tila taila* as the oil that makes lean persons fat and fatty people leaner.^[25] In obese people, by its *Sukshma*, *Teekshna*, and *Ushna* properties, it enters finer channels, does *Kshapana karya* (~selective drying or abatement of fatty tissue) for *Meda*. Therefore, *Murchita tila taila* was selected for *Snehapana*, and it was given for four days in gradually increased dosage because if the *Sneha* is administered in a constant dose, the body becomes habitual for *Sneha* and will not produce *Utklesha* (~vitiation) of *Dosha* which is an essential requirement before elimination through *Shodhana*.

On the 5th day, when symptoms of proper internal oleation appeared, the patient was subjected to *Abhyanga* (~external oleation) and *Swedana* (~sudation therapy). *Abhyanga* produces *Mardavata*, i.e., softens the morbid humors and localizes them. *Swedana* is done to liquefy the vitiated *Doshas* which are spread throughout the body.^[26] Subsequent *Swedana* also channelizes the *Doshas* into *Koshtha* from *Shakha* (~peripheral organs) by causing vasodilatation and thereby increasing the vascularity. Thereafter, the increased *Doshas* are expelled out through *Pradhaba karmas* (~main therapeutic *Panchakarma* procedures) such as *Vamana* and *Virechana*. Charaka has mentioned that *Swedana karma* is the best treatment for vitiated *Vata* and *Kapha* dominant diseases.^[27] *Virechana karma* was also selected in this study as the patient was diabetic and Charaka has advised *Shodhana* for *Sthula pramehi* (~obese diabetic) and *Brumhana* for *Krishna pramehi* (~weak diabetic).^[28]

As *Snehapana* and *Swedana* are performed before *Virechana*, the *Doshas* smear easily without any hindrance and easily come to the *Amashaya* and *Pakvashaya* (~upper and lower gastrointestinal tract) from where they are subsequently evacuated through *Virechana*. After the administration of *Virechana* drugs, 14 *Vegas* were observed which can

be considered as *Madhyama* type of *Shuddhi* (~moderate purification).

Virechana drugs have the properties such as *Ushna*, *Tikshna*, *Sukshma*, *Vyavayi*, and *Vikasi*. Due to its *Vyavayi guna*, it can quickly circulate into the smaller capillaries of the body. Because of its *Vikasi guna*, it detaches the *Malas* from *Dhatu*s. By virtue of its *Ushna* and *Tikshna* properties, the accumulated *Doshas* get liquefied and disintegrated at cellular level. Due to *Sukshma guna* and *Anupravan* nature, the *Malas* and excessive *Doshas* are ultimately drained towards *Amashaya* through vascular supply without obstruction. *Virechana dravyas* are predominantly composed of *Prithvi* and *Jala mahabhuta*^[29] due to which they preferably act along with gravity and expel the vitiated *Doshas* primarily via the rectal route.

Samsarjana karma is the specific dietary regimen which is advised after performing *Shodhana*. Here, *Peya* prepared from *Yava* (~barley) was administered and *Yavasaktu* was given in place of *Vilepi*, as the person was diabetic and *Santarpana* should be given in *Samsarjana karma* to the diabetic patient. It plays an important role in protecting and improving *Agni* (~digestive fire) gradually. Due to elimination of excessive *Doshas* from the body after *Samshodhana*, *Agni* becomes weaker. To restore the strength of *Agni* and *Prana*,^[30] the specific dietary pattern ensures normalcy of health and more robust *Agni* in a gradual manner.

Oral regimen in the study comprised of drugs which had *Lekhaniya* properties thereby aimed to maintain the weight attained after *Shodhana*. *Tribhala*, *Guduchi*, *Yashtimadhu*, and *Katuk*^[31] were used owing to their specific role in regulating metabolism in a better manner, i.e., lower the anabolic activity, and thereby controlling obesity. Besides, specific dietary regimen was planned for the patient, which included a well-balanced diet comprising more proteins, vitamins, and minerals and lesser carbohydrates and saturated fats, to which he was more used to, earlier. Regular exercise, meditation, brisk walking or jogging along with following normal biological clock such as early meals, early sleep, and early awakening were advised to be followed religiously. He was advised to properly chew the food. Day sleeping, overeating, consuming junk food and food items prepared from refined products such as *Maida* (~fine flour), confectionery items, alcohol, curd, sugar, and refined oils were also prohibited. He was also advised to refrain from chocolates and soft drink usage to which he was much used to, earlier.

CONCLUSION

Marked change was noticed in the overall condition of the patient after *Virechana*. This change was not only limited

to the gross appearance or anthropometric measures but also involved the biochemical markers like lipid profile of the patient. After the noteworthy changes brought about by *Virechana*, the patient was administered drugs to maintain the benefits produced and was advised proper lifestyle to put a check on increasing weight and simultaneously inculcate proper metabolism by burning calories continuously to remain in shape. This was a single case report which was noteworthy for the changes brought after *Virechana* in such patients. However, larger sample size shall be more valuable in drawing concrete conclusions.

Declaration of patient consent

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

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Conflicts of interest

There are no conflicts of interest.

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