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Effect of *Virechana Karma* on *Sthaulya* w.s.r. to Obesity

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ABSTRACT

People's altered life style, dietary habits makes many metabolic changes in the body and ultimately have made them victim of many diseases. Obesity is one of those diseases. It is not only a disease but also precursor of so many diseases like dyslipidemia, IHD, CAD, Hypertension, Diabetes etc. It is also a social stigma. In Ayurveda, the management of *Sthaulya* is described through various aspects. According to *Charaka*, *Sthaulya* is a *Bahudoshaja* disease. Hence its management should be planned with *Virechana Karma* and *Shamana* drugs. Following the dictum of *Charaka* for the management of complicated *Bahudoshaja Vyadhi* like *Sthaulya*, *Virechana Karma* is advocated along with effect of *Shamana* drugs. Keeping in view the above concept, a research work was carried out to assess the actual role of *Virechana* in the management of disease *Sthaulya*. In this study total 30 patients were treated with *Virechana* followed by *Sansarjana Karma*. At the end of study patients had shown significant effect on weight and B.M.I. parameters.

Key words: Ayurveda, Panchakarma therapy, *Virechana Karma*, *Sthaulya*, Obesity.

INTRODUCTION

According to WHO, worldwide at least 2.8 million people die each year as a result of obesity.^[1] One of the most recent and careful global estimates finds that roughly 500 million adults are obese (BMI > 30) among them 10 % of men and 14 % of women and its nearly double the rate of obesity in 1980. During the early 21st century, America often contained the highest percentage of obese people in the world. An obese person in America is likely to incur \$1497 more in medico expenses annually. According to a study

published in the noted journal Lancet, India is just behind US and China in this global hazards list of top 10 countries with the highest number of obese people. In Ayurveda, *Sthaulya* has been placed in the *Astaninditya Purusha* (eight despicable personalities).^[2] For its management, various aspects needs to be considered. According to *Charaka*, *Sthaulya* is a *Bahudoshaja* disease. Excessive intake of sweet, heavy and oily substances *Kapha-Pitta* is aggravated and *Sthaulya* is a disease of over nutrition. Hence its management should be planned with *Virechana Karma* and *Shaman* drugs. *Virechana* is the most important measure of *Shodhana* therapy. It is a specific modality for the elimination of *Pitta Dosha* but it is also effective upon *Kapha* and *Vata*. *Acharya Charaka* has mentioned *Vamana Karma* and *Virechana Karma* in the management of *Santarpanajanya Vyadhi*^[3] and in *Bahudoshavastha* condition different *Shodhana* (Purification) modalities has been mentioned like *Vamana*, *Virechana*, *Basti* etc., for *Sthoulya*. *Virechana Karma* is one of them which is easy to administer and less complicated procedure to the patients.^[4] Therefore, the present study was planned with an aim to evaluate the effect

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of *Virechana Karma* followed by *Sansarjana* in the management of *Sthaulya*.

MATERIALS AND METHODS

30 patients suffering from *Sthaulya* (obesity) were selected from the O.P.D. & I.P.D. of N.I.A. and *Seth Surajmal Bombaywala Hospital, Jaipur* (Rajasthan) irrespective of religion, sex, occupation and cast etc.

Inclusion criteria

- Age between 20 to 55 years.
- *Sthaulya* was diagnosed by Ayurvedic classics.
- Obesity was diagnosed by modern classics.
- B.M.I.- 25 to 45 Kg/m².
- Waist / Hip ratio - In men was about 0.93 with a range of 0.75 to 1.10. In women was about 0.83 with a range of 0.70 to 1.00.

Exclusion criteria

- Age below the 20 years and above the 55 years.
- The obese patients suffering from uncontrolled hypothyroidism, uncontrolled DM, cardiovascular disease, severe hypertension, Cushing's syndrome and pregnant women was excluded.
- The very obese patient having B.M.I.>45 was also being excluded.
- Any systemic illness.
- Severe complicated cases.

Criteria for Diagnosis

The patients were diagnosed and assessed on the basis of sign and symptoms of *Sthaulya* (obesity). A special proforma was prepared by in co-operating all the sign and symptoms of *Sthaulya* (obesity) including objective parameter.

Laboratory investigation

Following investigations were carried out before and after treatment.

- Hematological examination (FBS, TLC, DLC, Hb%, PCV, ESR).
- Wt. examination B.T. & A.T.

- Urine analysis.
- Bio-chemical examination
- Lipid profiles, R.B.S., Blood urea, Serum creatinine & L.F.T.
- Related investigations were carried out to exclude any other Pathology like T3, T4 & TSH, if required.

Virechana Karma was given in following manner;

- Drug for *Snehpana* - By *Triphaladyama Tailam*.
- Dose and duration - As per *Kostha* and *Prakriti*, *Snehpana* was given in increasing dose till *Samyaka Snigdha Lakshana* or maximum upto 7 days.
- *Sarvanga Abhayanga* - *Triphaladyama Tailam* and *Mridu Sarvanga Sweda (Bashpa Sweda)* was carried out after getting *Samyaka Snigdha Lakshana*.
- Drugs for *Virechana*
 - *Deepana* and *Pachana* - by *Panchakola Churna*,
 - Dose - 2 gms, 3 times a day for 3-7 days as per requirement.
 - *Triphala Yavakuta* - 2 parts
 - *Trivritamoola Churna* - 1 part
 - *Katuki Churna* - 1 part
 - *Ichhabhedi Rasa* - (SOS)
 - Castor oil - (Q.S.)

Sansarjana Karma was carried out on the basis of *Shuddhi* for 3 to 7 days.

Criteria for assessment

The assessment was carried out on the basis of improvement in subjective as well objective parameter, biochemical changes along with improvement in patients *Dehabala*, *Agnibala* and *Chetasbala* of the patients.

Overall assessment of therapy

Overall assessment of all the therapies was carried out as given below.

- < 25% No improvement
- >25-<50% Mild improvement
- >50- <75% Moderate Improvement
- >75-<99 % Marked improvement
- 100%Complete remission

Statistical Analysis: For Statistical Analysis 't' test was used.

OBSERVATIONS AND RESULTS

Maximum No. of patients (92.31%) were Hindu, middle economic status (76.92%), female (73.08%) married (57.69%). 42.31% were belong to age group 20-30 years and house wife. 34.62% patients were graduates. *Madhyama Sara* (96.15%), *Madhyam Praman* (73.08%), All the patients were having *Madhyam Satmya*. *Madhyama Sara* (96.15%), *Madhyam Praman* (73.08%). *Madhyama Samhanana* (61.54%). 57.69% patients were having *Kapha-Pitta Prakriti*, *Tamasik Prakriti* (46.15%), *AvaraSatva* (42.31%). Maximum 53.85% patients were having *Pravara Ruchi*, *Pravara Abhyavaharana Shakti* and *Madhyama Jarana Shakti*. Elaborated dietetic history shows that 65.38% were consuming *Guru Guna*, *Madhura* and *Katu Rasa* (53.85%) While 61.54% patients were having *Adhyashana* type of dietetic habit. Maximum 69.23% patients were taking tea as supplementary diet. Maximum 84.62% were having 7-9 hrs/day working time. 69.23% patients were related with standing type of work followed by 61.54% patients were related with sitting type of work. Maximum 50% patients were having positive family history of *Sthaulya*. Maximum 36.84% female patients developed obesity after delivery. Elaborated *Nidana* history described that all of patients were consuming *Godhuma* followed by 69.23% *Atibhiojan* 61.54% had habit of *Guru Ahara* as dietary factor. *Avyayama* was observed in 65.38% patients, *Diwaswapna* was found in 61.54% of patients and *Bhojanotarnidra* in 57.69% as behavior factor. *Harshanityatva* was observed in 65.38% as psychological factor whereas *Beejadosh*a was observed in 30.77% of patients. 100% patients were reported to have complaints of *Bharvridhi*, followed by 65.38.% having *Angagaurava*, 61.54%

having *Angachalatva* and *Atikshudha* was found in 50% of patients. 96.15% patients were having *Kaphadushti* followed by *Pittadushti* in 84.60% Of patients. *Rasavaha* and *Medovaha Srotodushti* were observed in all the patients. While *Swedavaha Srotodushti* was observed in 84. 62%. B.M.I. history reveals that maximum 53.85% belonged to 25-30 B.M.I. (over weight) and 46.15% patients were belonged to 30-40 B.M.I. (obese). Maximum 76% patients were having HDL level < 50mg/dl and 32% having S.Triglyceride 151-180mg/dl level.

Effect of Therapy

Table 1: Effect on Virechana on Sign and Symptoms on Patients

Symptoms	Mean Score		% Relief	Mean	S. D.	t	P
	B. T.	A. T.					
<i>Bharvridhi</i>	2.93	1.87	36.36	1.07	0.25	23.03	<0.001
<i>Angachalatva</i>	2.73	1.63	40.24	1.10	0.61	9.92	<0.001
<i>Angagourava</i>	2.67	1.13	57.50	1.53	0.63	13.36	<0.001
<i>Swedadhikya</i>	2.83	1.13	60.33	1.70	0.70	13.26	<0.001
<i>Atipipasa</i>	2.50	0.90	64.00	1.60	0.67	12.99	<0.001
<i>Angadaurgandhya</i>	1.63	0.50	69.39	1.13	0.51	12.23	<0.001
<i>Atikshudha</i>	2.87	1.12	65.12	1.87	0.86	11.88	<0.001
<i>Kshudrashwas</i>	2.40	1.13	52.78	1.27	0.52	13.32	<0.001
<i>Utsahahani</i>	2.83	1.27	55.29	1.57	0.63	13.71	<0.001

<i>Maithunhani</i>	1.33	0.40	70	0.93	0.83	6.18	<0.001
<i>Atinidra</i>	2.83	1.13	60	1.70	0.65	14.30	<0.001
<i>Snigdhangata</i>	2.30	0.77	66.67	1.53	0.57	14.70	<0.001
<i>Daurbalyata</i>	2.37	0.93	60.56	1.43	0.50	15.58	<0.001

Maximum relief of 70% was seen in *Maithunhani* followed by 69.39% in *Angadaurgandhya*, 66.67% in *Snigdhangata*, 65.12% in *Atikhshudha*, 64% in *Atipipasa*, 60.56% in *Daurbalyata*, 60% in *Swedadhikya* and *Atinidra*, 57.50% in *Angagaurava*, 55.29% in *Utsahahani*, 52.78% in *Kshudrashwasa*, 40.24% in *Angachalatva* and 36.36% in *Bharavridhi*. All these changes were statistically highly significant (p<0.001).

Table 2: Effect of Virechana on Circumference

Circumference (In mm.)	Mean Score		% Relief	Mean	S.D.	t	P
	B.T.	A.T.					
Chest	105.97	102.60	3.18	3.37	1.00	18.45	<0.001
Abdomen	107.37	104.13	3.01	3.23	0.97	18.23	<0.001
Hip	112.13	107.63	4.50	4.01	9.57	2.58	<0.005
Pelvis	107.37	104.20	2.95	3.17	1.42	12.25	<0.001
Mid thigh	54.33	51.37	5.46	2.97	0.93	17.51	<0.001
Leg	40.00	37.20	7	2.80	1.32	11.59	<0.001

By this therapy, Decrease observed in various body circumferences i.e. chest circumference 3.18%, abdominal circumference 3.01%, buttock

circumference 4.5%, pelvis circumference 2.95%, mid-thigh circumference 5.46%, leg circumference 7%. All these results were statistically highly significant (P<0.001) except for hip where changes were statistically significant (p<0.01).

Table 3: Effect on Skin fold thickness of 30 patients

Skin fold thickness (In cm.)	Mean Score		% Relief	Mean	S.D	t	P
	B.T	A.T					
Biceps	4.10	3.88	5.37	0.22	0.08	15.83	<0.001
Triceps	4	3.76	6.08	0.24	0.10	13.72	<0.001
Abdomen	4.34	4.01	7.75	0.34	0.25	7.76	<0.001

In this therapy, Reduction observed in various skin fold thickness i.e. biceps 5.37%, triceps 6.08%, abdomen 7.75% at statistically highly significant level (P<0.001).

Table 4: Effect on haematological parameters

Parameters	Mean Score		% Relief	Mean	S.D.	t	P
	B.T.	A.T.					
Hb%	12.89	13.21	2.51	0.32	0.45	3.94	<0.001
TLC	8056.67	7573.33	6	483.33	1351.65	1.96	>0.05
Neutrophils	58.83	58.83	0	0	9.15	0	-
Lymphocytes	36	36.10	0.28	-	8.69	0.06	>0.05
Eosinophils	2.37	2.43	2.82	-	0.98	0.37	>0.05

Monocytes	2.80	2.90	3.57	0.10	1.03	0.53	>0.05
ESR	24.77	18.60	24.90	6.17	8.60	3.93	<0.001

By this therapy, *Virechana*, maximum decrease was seen in ESR of 24.90% followed by 6% decrease in TLC, 3.57% increase in monocytes, 2.82% increase in eosinophils, 2.51% increase in HB, no change in neutrophils, 0.28% increase in lymphocyte. These changes were statistically highly significant ($p < 0.001$) in HB and ESR rest of the changes were statistically insignificant ($p > 0.05$).

Table 5: Effect of Virechana on biochemical parameters.

Parameters	Mean Score		% Relief	Mean	S.D	t	P
	BT	AT					
S. Cholesterol	194.30	179.20	7.77	15.10	16.76	4.94	<0.001
S. Triglycerides	159.47	143.33	10.12	16.13	16.28	5.43	<0.001
HDL	57.7	57.90	0.35	-0.20	1.42	0.77	>0.05
B. Urea	33.73	33.40	0.97	0.33	3.49	0.51	>0.05
S. Creatinine	0.97	0.93	4.47	0.04	0.19	1.27	>0.05
FBS	80.93	75.87	6.26	5.07	9.41	2.95	<0.001
PPBS	97.91	91.65	6.39	6.25	10.75	3.19	<0.001

In *Virechana*, maximum decrease was seen in triglyceride by 10.12% followed by 7.77% decrease in s. cholesterol, 6.39% decrease in PPBS, 6.26%

decrease in FBS, 4.47% decrease in creatinine, 0.97% decrease in blood urea, 0.35% increase in HDL. The changes were statistically highly significant ($p < 0.001$) in S. cholesterol, S. triglyceride; significant in FBS & PPBS ($p < 0.01$); and rest of the changes were insignificant ($p > 0.05$).

Table 6: Overall effect of therapy observed in Virechana

Assessment	No. of patients	%
Complete remission	0	0
Marked improvement	0	0
Moderate improvement	18	60
Mild improvement	12	40
Unchanged	0	0

In this therapy, 60% patients were moderately improved while 40% patients showed mild improvement.

DISCUSSION

The present study deals with typical obesity and not with the reasonable adiposity, which is a reflection of endocrine imbalance. The *Shodhana* therapy consists of potent five specialized therapeutic techniques i.e., *Vamana*, *Virechana*, *Basti*, *Nasya* and *Raktamokshana* collectively called as *Panchakarma*. By this therapy the vitiated *Dosha* which are the cause of the disease get completely eliminated, so that there is practically no possibility of re-occurrence and long lasting beneficial effects are produced, whereas by *Shamana* therapy there is every possibility of disease to aggravate. *Virechana Karma* is considered as second *Pradhana Karma* through which and related substances vitiated *Kapha* and *Pitta* are expelled out of body through anus. The study shows that indulgence of oily and fatty food, sedentary life style, psychological factors along with genetic predisposition play a major role in etiopathogenesis of *Sthaulya*.^[5] *Kapha* and *Avritavata* as *Dosha*, *Medha*

as *Dushya* and *Medodhatvagnimandya* are main responsible factor in pathogenesis of *Sthaulya*. *Virechana Karma* followed by *Samsarjana Karma* was found effective to reduce the weight and to provide relief in sign and symptoms. *Virechana* is effective as it works as *Strotoshodhana* and *Kaphahara*. The principal action of *Virechana Karma* is elimination of vitiated *Pitta Dosha* which is the important factor in regulation of *Agni*. Drugs of *Virechana Karma* have maximum ingredient of *Katu Rasa*, *Laghu*, *Ruksha Guna*, *Ushna Virya* and *Katu Vipaka*, *Vatakapha Shamaka*, *Karshana*, *Lekhaniya*, *Medorogahara*, *Amapachana*, *Dhatu-Shoshana* properties, which normalize the state of *Agni*. Thus, regulated *Jatharagni*, checks the excessive growth and accumulation of *Medo-Dhatu* and thereby causing *Lakshana Upashamana* of disease *Sthaulya*.

By *Virechana Karma*, all *Dosha Vata*, *Pitta* and *Kapha* are alleviated so the weight of the body automatically decreases which leads to *Sthaulyanasha*.^[6] *Meda* and *Kleda* are the chief culprits in *Sthaulya*.^[7] *Tikta* and *Katu Rasa* performs *Medokledopashoshana* action. *Ushna Virya* also helps in *Kleda* and *Meda Vilayana* action. After *Virechana Karma*, followed by *Samsarjana Karma*, it leads to *Agnivridhi* and *Amanasha*. By *Virechana Karma* all *Srotas* especially *Medovaha* and *Rasavaha Srotas* gets purified.

Conclusion

Virechana Karma followed by *Samsarjana Karma* can be considered as a good modality for management of *Sthaulya*. And on the basis of modern parameters, we can conclude that by overall comparison of all the parameters before and after treatment, showed that effect of *Virechana* was significant in *Sthaulya*.

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