



Research Article

A CLINICAL STUDY ON THE ROLE OF ERANDA KSHARA IN STHAULYA (OBESITY)

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ABSTRACT

There are so many basic concepts in *Ayurveda*; *Dhatvagni mandya* is one of them. The whole phenomenon of disease cannot be completed without *Dosha-Dushya Siddhant*. They play important role in the pathology of disease. Obesity is one of them, which affect the health as well as life span. *Sthaulya* is one of the disease which is known to mankind since *Vedic* era, has been dealt in great details in *Ayurvedic* texts. The sign, symptoms and etiological factor of *Sthaulya* show very much resemblance with obesity. Worldwide Obesity is emerging health problem. It is a metabolic disorder which has affected every corner of world. In present study 30 patients of *Sthaulya* were selected from OPD and IPD of M.A. Podar hospital, Mumbai. These patients were undergone throw laboratory investigations. They were treated with *Eranda Kshara with Ghrita bharjit Hingu* given orally, duration of treatment was two months and follow up was done with parameters like Height, weight, BMI, Mid arm circumference, Waist circumference, Waist Hip ratio and symptoms of *Sthaulya*. It was observed that *Atikshuda* and *Atitrushna* reduce significantly. It shows relief in weight, BMI, Waist Circumference, Mid Arm Circumference and Waist Hip ratio. There was no significant change in hematological as well as Urine investigations. Average percentage of relief was 60.72%.

KEYWORDS: *Sthaulya*, obesity, *Eranda Kshara*.

INTRODUCTION

Now every person is running for life's goal. Hence does not have time to think. Act for healthy life and not able to follow proper *Dincharya*, *Ritucharya*, diet rules and regulations. Due to artificial living life style, person have got so many disorders for themselves, *Sthaulya* is one of them. *Ayurveda* widely explained concept of *Sthaulya* and its management. *Acharya Charaka* included *Sthoola* in *Asthanindit purusha* ^[1] i.e. undesirable person and he further stated that *Sthaulya* is a *Santarpanjanya Vyadhi* ^[2]. With help of classical therapy and *Pathya-Apathya* concept of our *Acharyas*, we can give better results in *Sthaulya* ^[3].

The main aetiopathological process is less dominance of *Medadhatwagni* (*Meddhatwagnimandya*) leads to excessive production of *Meda*. This *Meda* then with vitiated *Kapha dosha* constrains natural pathway (*Strotorodha*). So there is blockage to flow of *Vayu* due to which it gets vitiated. This vitiated *Vayu* then stimulates *Jatharagni* causing excessive appetite (Pseudo appetite). Person goes on consuming, this again causes *Agnimandya* and vicious cycle goes on repeating finally leads to *Sthaulya* ^[4]. *Sthaulya* is counted as *Kapha nanatmaj vyadhi* in *Charak samhita* ^[5].

For management of *Sthaulya* we want formulation having following properties like *Kaphagna*,

Dhatwagnideepak, *Strotorodh nashak*, *Pachak*, *Medoghna*, *Lekhan*, *Ruksha*, *Ushna*, *Tikshna guna*, *Katu*, *Tikta*, *Kashaya Rasa*, *Ushna Virya* and *Katu Vipak*. *Kshara* possesses above mentioned properties. Reference from *Rasa Kamdhenu* highlighted that *Kshara* is acting on *Medoroga*. *Acharya Bhavmishra* has stated that, *Eranda Kshara* as administered in *Sthaulya* ^[6].

AIMS AND OBJECTIVES

To evaluate the effect of *Eranda Kshara* in *Sthaulya*.

MATERIALS AND METHODS

Study type: Prospective, open randomized. Patients fulfilling criteria and attending OPD and IPD of M.A. Podar Hospital, Mumbai were selected for present study. Ethical clearance from R.A. Podar Ayurved College, Mumbai. An informed written consent of all 30 patients was taken in language best understood by them.

Drug: *Eranda Kshara*

Dose: 500mg twice a day

Anupan: *Ghrita bharjit Hingu* 250mg

Duration: Two months

Diet: Non specific routine diet is advised.

Number of patients: 30 patients.

INCLUSION CRITERIA

1. Presenting classical symptoms of *Sthaulya*.
2. Age: 18 to 60 years.
3. Patients having BMI more than 24.9.

EXCLUSION CRITERIA

1. Age below 18 yrs and above 60 yrs.
2. Pregnancy and Lactation.
3. Patients suffering from systemic diseases like Ischemic heart disease, Hypertension, Diabetes Mellitus, AIDS, Hypothyroidism, Renal disease, Hyperacidity, Neurological diseases were excluded.
4. Morbid Obesity BMI > 40.

CLINICAL PARAMETERS

1. Signs and symptoms of *Sthaulya*.
2. Weight (kg)
3. Height (meters)
4. Body Mass Index
5. Mid Arm Circumference
6. Waist Circumference
7. Waist Hip Ratio

LABORATORY INVESTIGATIONS

1. Total Blood Count, ESR, Liver Function Test, Renal Function Test, HIV, VDRL.
2. Lipid Profile, Thyroid Profile Blood Sugar: Fasting and Post Prandial
3. Urine Analysis: Routine and Microscopic Examination
4. Other
5. ECG

SUBJECTIVE AND OBJECTIVE PARAMETER

The symptom of assessing, observing and analyzing the effect on symptoms and signs is described here. To assess features of *Sthaulya* clinical symptoms were graded into four (0 to 3) grade scale on the basis of severity and duration of symptoms.

Gradation of symptom

A) Atitrishna

- 0 : *Samyak Trishna*
- 1 : Feel thirst occasionally,
- 2 : Feels thirst frequently after drinking water; 3- patient is not satisfied by drinking water and feels thirst continue

B) Atikshuda

- 0 : *Samyak kshuda*
- 1 : Feels hunger after 6 hrs in two meals and after taking some refreshment it is relieved
- 2 : Feel hunger after 3 hrs in two meals and after taking some refreshment it is relieved
- 3 : After every 1 ½ hr patients feels hunger

C) Daurbalya

- 0 : Absence of *Daurbalya*
- 1 : Feels tiredness after daily routine work

- 2 : Patient has to take rest for a while after working continuously for 2 hours
- 3 : Patient is unable to work.

D) Swedadhikya

- 0 : Normal sweating
- 1 : Feels perspiration on exertion
- 2 : Feel perspiration without exertion and he has to change inner garment twice daily
- 3 : Feels perspiration continuously and he has to change inner garments more than two times

E) Daurgandhya

- 0 : Absence of *Daurbalya*,
- 1 : Feels bad odor himself
- 2 : Patient emits bad odor which is unpleasant to others
- 3 : Patient emits bad odor while passing nearby.

F) Nidradhikya

- 0 : *Samyak nidra* 6-7 hrs per day
- 1 : 8 to 10 hrs per day
- 2 : 10 to 12 hrs per day
- 3 : More than 12 hrs per day.

G) Karmaasahatwata

- 0 : Absence of *Karmaasahatwata*,
- 1 : Tiredness after doing daily routine work,
- 2 : Patient has to take rest while doing daily routine work
- 3 : Patient is unable to do daily routine work.

H) Krichchyavyavayata

- 0 : Normal or no alteration in period of desire of intercourse
- 1 : Intercourse once a week
- 2 : Intercourse once in fortnight
- 3 : Intercourse once in 6 months or no desire

All above parameter were noted prior to start of treatment. After completion of treatment assessment were carried out. Patient undergoing treatment was examined clinically at every follow up and record maintained. Some physical examination like weight, BMI, mid arm circumference, waist circumference and waist hip ratio were carried out at every follow up. However laboratory investigations were carried out before and after treatment. Total effect of therapy was assessed on patients in terms of cured, markedly cured, improved and unchanged.

PREPARATION OF ERANDA KSHARA

A full grown *Eranda* of middle age selected from well area. Then cut its leaves and dry in a place protected from wind. Then burn them to ashes with the lighted faggots of *Tilnal*. Then after when fire fairly burnt, the ashes of leaves collected and stored. Then this ash is dissolved in pure water which is six times more than ash and then filtered twenty times with the help of clean linen. Then filtrate is kept in a large enamel vessel over a fire and boiled by gently agitating it with a ladle, till the saturated water appears to

Achchha, Rakta, Pichhi, and Tikshna. Then take it down from fire and filtered through a piece of clean linen. This is a *Ksharodak*. Then *Ksharodak* is evaporated to get *Eranda Kshara* at the bottom of vessel.

ANALYSIS OF DATA

Data collected from CRF were then subjected to demographic and statistical analysis. Student t-test was applied to objective data generated and significance of improvement was studied. However subjective data of symptoms, as they are generated by ranking, they did not follow normal distribution, hence forth evaluated by Wilcoxon Rank signed test.

OBSERVATIONS AND RESULTS

- Clinical study observed on 30 patients by sorting patients as per sex, age, occupation, diet, *Prakruti, Koshtha* and *Agni*.
- 73.33% patients were female and 26.67% were male.
- 10% belongs to age group between 18-30 yrs, 16.67% between 30-40 yrs, 50% between 40-50 yrs and 23.33% between age group 50-60 yrs.
- 6.66% belonging to rich economical status, 26.67% were upper middle and 66.67% belongs to Middle class Family.
- 13.33% were illiterate, 53.33% educated up to S.S.C, 16.67% up to H.S.C, 10% were Graduate and 6.67% were Post Graduate.
- 66.67% patients were House Wife, 13.33% doing Job, 20% having their own business.

- 13.33% were Vegetarian and 86.67% having mixed diet.
- As per *Prakruti* 26.67% belongs to *Vatakaphaja Prakruti*, 56.66% belongs *Kaphapittaja Prakruti* and 16.67% belongs to *Vatapittaj Prakruti*.
- 10% patients having *Mrudu Koshtha*, 60% *Madhyama* and 30% *Krura Koshtha*.
- 30% having *Mandagni*, 40% *Vishmagni* and 30% having *Tikshnagni*.

Assessment of Subjective Parameters

Eranda Kshara reduces *Atikshuda* by 65%, *Aatitrushna* by 72.34%, *Daurbalya* by 60.47%, *Daurgandhya* by 60.47%, *Svedadhikya* by 60.78%, *Nidradhikya* by 54.90%, *Karmaasahatva* by 53.70% and *Krichchvyavayata* by 60%.

Assessment of Objective Parameters

Eranda Kshara shows remarkable difference in weight by 1.97 ± 1.67 , BMI by 0.78 ± 0.47 , Waist circumference by 3.97 ± 1.38 , Mid arm circumference by 0.78 ± 0.48 and difference in Waist hip ratio by 0.006 ± 0.01 .

Total Effect of Therapy

No one patient has found completely relived and markedly improved. 23 patients (76.67%) of *Sthaulya* treated with *Eranda Kshara* were improved. 07 (23.33%) patients have show very miner improvement.

Table 1: Showing Statistical analysis of Subjective Parameters of *Sthaulya*

S.No.	Symptom	Score AT	Score BT	Diff.	Tt	Te	Z	P	Remark
1	<i>Atikshuda</i>	40	14	26	266	133	4.05	<0.001	Highly Significant
2	<i>Atitrushna</i>	47	13	34	351	175.5	4.46	<0.001	Highly Significant
3	<i>Daurbalya</i>	43	17	26	341	170.5	4.41	<0.001	Highly Significant
4	<i>Daurgandhya</i>	41	17	24	290	145	4.14	<0.001	Highly Significant
5	<i>Svedadhikya</i>	51	20	31	496	248	6.30	<0.001	Highly Significant
6	<i>Nidradhikya</i>	51	23	28	396	198	5.03	<0.001	Highly Significant
7	<i>Karmaasahatna</i>	54	25	29	425	212.5	5.01	<0.001	Highly Significant
8	<i>Krichchvyavayata</i>	15	06	09	45	2.5	2.67	<0.001	Highly Significant

Table 2: Showing Statistical analysis of Objective parameters of *Sthaulya*

S.No.	Parameter	Mean \pm S.D. BT	Mean \pm S.D. AT	Diff of mean \pm S.D.	Sed	t- value	p- value
1	Weight	75.67 \pm 9.39	73.70 \pm 9.04	1.97 \pm 1.67	0.30	0.56	p<0.001
2	BMI	29.47 \pm 3.00	28.69 \pm 2.77	0.78 \pm 0.47	0.086	9.07	p<0.001
3	WC	88.93 \pm 4.63	84.97 \pm 4.44	3.97 \pm 1.38	0.25	15.88	p<0.001
4	WHR	0.94 \pm 0.01	0.93 \pm 0.02	0.006 \pm 0.01	0.0018	3.33	p<0.001
5	MAC	34.10 \pm 3.07	33.32 \pm 3.08	0.78 \pm 0.48	0.088	8.86	p<0.001

Table 3: Showing effect of therapy on Hematological Parameters

S.No.	Parameter	Mean \pm S.D. BT	Mean \pm S.D. AT	Diff. of Mean \pm S.D.	SEd	t- value	p- value
1	Hb	11.70 \pm 1.47	11.97 \pm 1.08	0.27 \pm 0.8	0.15	1.8	p>0.10
2	SGOT	33.47 \pm 1.08	33.57 \pm 7.95	0.1 \pm 4.52	0.82	0.12	p>0.10
3	SGPT	25.47 \pm 9.52	26.57 \pm 8.08	1.1 \pm 5.17	0.94	1.17	p>0.10
4	Sr. Bilirubin	0.86 \pm 0.24	0.90 \pm 0.23	0.04 \pm 0.27	0.05	0.8	p>0.10
5	Sr. Creatinine	0.85 \pm 0.21	0.83 \pm 0.17	0.03 \pm 0.18	0.033	0.9	p>0.10
6	Sr. Cholesterol	192.17 \pm 23.52	191.47 \pm 27.63	0.7 \pm 12.57	2.29	0.31	p>0.10
7	Sr. Triglycerid	113.73 \pm 32.82	114.10 \pm 31.13	0.37 \pm 4.46	0.81	0.46	p<0.10
8	LDL	123.1 \pm 31.98	105.43 \pm 17.26	17.66 \pm 28.68	5.23	3.37	p<0.10

DISCUSSION

Acharya Bhavprakash has described *Eranda Kshara* for treatment of *Sthaulya*. It shows better results in Subjective Parameters. It reduces *Atitrushna* by 72.34%. It also reduces Weight, BMI, Waist Circumference, Mid Arm Circumference and Waist Hip ratio. *Eranda Kshara* has no any adverse effect on Hematological and Urine Investigations. 23 patients were Improved and 07 shows minor improvement.

Mode of Action of *Eranda Kshara*

Eranda Kshara with its *Katu, Tikta, Kashaya rasa, Ushna Virya, ruksha, Ushna, Lekhan, Medoghana Guna Katu Vipak* causes *Dipan, Pachana* and digest *Ama* thus removes the *Margavarodha of Medovahastrotas*. Due to above character it alleviates *Kapha* and *Vata*. Thus brings these two *Dosh* to normal and *Medohar* property clears excess of *Meda*.

CONCLUSION

This clinical study shows that females are more prone towards obesity. Age group above 40 years should be conscious towards obesity. People having mixed diet, housewife, and people having *Vatakaphaja prakruti* and *Vishamagni* have more chances of getting obesity. It was observed that *Atikshuda* and *Atitrushna*

reduce significantly. It shows relief in weight, BMI, Waist Circumference, Mid Arm Circumference and Waist Hip ratio. There was no significant change in hematological as well as Urine investigations. Average percentage of relief was 60.72%.

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