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Case Report

Garcinia Cambogia For Obesity

Therapeutic Evaluation of Vrikshamla (Garcinia Cambogia) in the Management of Sthoulya (Obesity) W.S.R Dyslipidemia a Case Report

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Abstract: In recent years' obesity which is one among the metabolic syndrome is a leading health problem which can be co-related to dyslipidaemia – "*prayaha snehat meda pravaradhyet*", implying the factor that excessive *sneha(oleation)* is responsible for excessive production of *meda dhatu* (fatty tissue) and such excessively accumulated *meda dhatu* (fatty tissue) causing *avarodha (obliteration)* of other *dhatu(tissues)* leading to *medoroga(dyslipidaemia)* or else it is taken as *sthoulya* (Obesity). Obesity is always associated with dyslipidaemia and other such metabolic disorders. There is an exact explanation to this pathology in Ayurveda and our *acharyas* have mentioned proper *shamana aushadi (alleviating therapy)* which can tackle both obesity as well as dyslipidaemia together. Hence our aim for this case report is to find out the efficacy of Vrikshamla (Garcinia Cambogia) in the management of *sthoulya* (Obesity) and dyslipidaemia and objectives that were assessed are body weight, BMI, body circumference and lipid profile of the patient. A 32-year-old male patient was a known case of obesity and diagnosed with dyslipidaemia based on the laboratory investigation. Patient was not a known case of any other metabolic disorders and administered with *shamana aushadi (alleviating therapy) vrikshamla* 2gms per day for 60 days. Patient was assessed before and after treatment with the subjective and objective parameters were taken up for the study which showed the drastic improvement in weight reduction of 6kgs and BMI was reduced to 29.2 from 32.2 and shows better results in lipid profile as well. Drug *Vrikshamala* (extract) which has *amla(sour), katu(pungent) and madhura(sweet) rasa(taste)* with l*aghu(lightness)* and *usna(hot) guna(properties)* in predominance and having the *kapha medohara* property helps in *agnisam dhukshana (stimulate digestive power)* and does the *ama sanchaya*, clears the *srotorodha (obstruction of channels)* was profoundly successful in reducing weight, BMI and lipid profile of a patient. Thus *vrikshamala* shows a better efficacy against *sthoulya(obesity)* and in dyslipidemia.

Key words: *Sthoulya*, Obesity, Dyslipidemia, *Vrikshamla,*

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1. INTRODUCTION

Lifestyle disorder is contemplated under major health issues in the present day. In the majority of lifestyle disorders, obesity is the prime factor in initiating the grave diseases like dyslipidaemia, diabetes mellitus, hypertension, coronary artery disorders and other associated diseases like varicosity, Osteoarthritis and other such disorders. Obesity is a major global health problem with challenges like multifactorial, etiological components difficulty in challenging dietary habits. Ignorance at initial stages of the disease leads to indelible complications. Ayurveda is based on the principle of *Tridoshas (humors) vata, pitta and kapha*. These *tridoshas* are the basic constituents at the physiological level in our system. These *tridoshas* are basic metabolic elements constituting the body and mind of the living organisms. In this most advanced modernized era, the human is gifted with a lot of sophistication, luxuries but at the same time left with sedentary ways of life stress induced hectic. Unhealthy schedules along with indiscriminate dietary habits, overeating, consuming processed high quality, high caloric foods and beverages propping into one's life are strongly influencing the homeostasis leading to the exhibition of a number of pathologies one amongst them being *sthoulya*(obesity). As we move into rapid modernization by providing almost luxury to our day today life, an individual is unable to maintain health by not adopting proper dietary and daily activities, as a result of which mainly diseases such *as sthoulya* (Obesity) or *medoroga* occur. Classics of Ayurveda have recognized and established this phenomenon under the headings of the *sthoulya (obesity)* or *medoroga (dyslipidaemia)*, dedicating chapters exclusively, elaborating various aspects of the same. The major risk related with STHOULYA (Obesity) is that it favours various complicated pathologies like *prameha(diabetes mellitus) , kusta(skin disorders), Swasa (dyspnoea), kasa(cough), Vataroga (neurological disorders), Kamala(jaundice)* etc. It is a well-established fact that obesity invites life-threatening complications like CAD, Hypertension, diabetes mellitus, atherosclerosis, strokes, and so on. Obesity is a chronic disorder that, if unchecked, will reduce the life expectancy and contribute to the increasing rate of morbidity and mortality so it has wisely said, "Longer is the belt, shorter is the life". Therefore, dyslipidaemia can correlate with the conditions of *Santarpana-janya-vikara*[1] as explained in our classics (Ch.Su.23). So the Concept of dyslipidaemia is the excess accumulation of lipids (Especially plasma lipids) in the body, leading to various acute and chronic conditions. *"prayaha-snehatmedahapravardhayet" (M.Ni.34/3-7).* Employing the authenticity, that excess *sneha (oleation)* is a responsible factor in exuberance production of *meda* and thus extremely produced meda (fat) causing the obliteration of the other *dhatu* that leads to *medoroga*[2] *or Sthoulya lakshana* in conjunction with *upadrava(complication)*. Here the pathology that is elaborated in our classics and in contemporary science about lipids can create the parallel link. Consequently, a need and relevance of proposed research study for dyslipidaemia is a common disorder of recent days, it affects about 25% of the total population, mostly the people of developed countries as well as developing countries said to be suffering from this condition. Blood levels of cholesterol and triglycerides give valuable information for the assessment of errors in lipid-metabolism. Diagnosis of dyslipidaemia done by clinical and laboratory investigations. The prime aim is to bring back the high cholesterol level to normal levels, the LDL triglycerides and total cholesterol levels should be lowered and HDL level should be increased by diet control and drug therapy which has equal importance in controlling the disease. Impairment of various enzymes is the cause for dyslipidaemia. Ayurveda acknowledges that the cause of all these conditions are *Agni-vikruti*[3], there is an involvement of *jatharagni(digestive fire), bhutagni*, and *dhatwagni.* In order to tackle the *samprapti(pathophysiology)* of *Sthoulya* scientific approach is an essential one and it's achieved by considering ayurvedic line of management, which is comprehensive and rational. Scrutinizing the literature, shows the involvement of *ama(an toxic substance)* and viation of the *dhatus* are noticed. Analysing the properties of the drug vrikshamla shows the *karmagnata (action) of deepana (appetizers), amapachaniya (digesting the undigested food), kapham hara* and it's also have the *anulomana* properties. It also eliminates the accumulated *malas* from the *dhatus* and from the *srotas(channel)* as well which cleanses the *dhatus* and *srotas*. In the pathology of STHOULYA(Obesity), *Kapha is* main *Dosha* and *Meda* is main *Dushya*, while *Agnimandya (loss of appetite)* occurs at *Medodhatvagni (fat metabolism)* level. When we scrutinize the literature, the treatment principles or therapeutic modalities (Table 1) which can be applied in *sthoulya* are many. In order to tackle the obesity and dyslipidaemia, individual has to undergo *nidanaparivarjana (avoiding the causative factors)*, *pathya(diet) shoadana(purifying therapy)* and shaman. So the *shamanaaushadi(pacifying therapy)* which is having the *kaphamedohara* property and having the efficacy to rectify the function of *medodhatvagnimandya* (decreased *fat metabolism)* is preferred. Somany preparations have been mentioned in our texts for the treatment of *Medodhatu Vridhi (increase in fatty tissues)*. Ease of availability and compatibility, the drug *Vrikshamla* (Garcinia Cambogia) is preferred in this present case study [4-5](Garcinia Cambogia), and has better efficacy in undertaking the *Sthoulya or medovriddhi or santarpana-janya-vikaras(diseases due to excessive nutrition)*

Table 1: Therapeutic Modalities And Advocacy For Sthoulya (Obesity)[6,7]

Principles	Advocacy
Nidanaparivarjana – avoidance of etiological factors	Faulty lifestyle , faulty dietary habits
Ahara (diet)	Katu (pungent), thiktha (bitter), amla(sour), Kashaya rasa (astringent, ushna (hot)Laghu (light) , ruksha (dry)
Vihara – lifestyle , modification	Vyayama (exercises) , asans (yoga) , shrama , adhwa , jagarana , vyavaya (sexualintercourse) , chintha etc.
Aushadhi – medical management	Katu (pungent) , amla (sour) ,thiktha (bitter) , kashaya rasa (astringent)

Table 1 Illustrates the therapeutic modalities which are applied in the sthoulya roga. Individual has to follow these modalities in order to overcome obesity and dyslipidaemia.

1.1 Prevalence rate of obesity[8]

Obesity is most prevalent in middle age women are more prone to be obese than men. Most of the world population live in countries where overweight and obesity kills more people than underweight recent studies have reported than globally more than 1.9 billion adults are overweight and 650 million are obese. Approximately 2.8 million deaths are reported as a result of being over- weight or obese, due to the consumption of energy dense food. That is unhealthy food and habits and a sedentary lifestyle. Lack of health care service and financial support, the developing countries are facing high risk of obesity and their adverse consequence e.g. diabetes, ischemic heart disease (IHD). In India more than 135 million individuals were affected by obesity. The prevalence of obesity in India varies due to age, gender, geographical-environment, socio economic status etc. According to ICMR INDIAB study 2015, prevalence rate of obesity and central obesity varies from 11.8% to 13.3% and 16.9% to 36.3% respectively. In India abdominal obesity is one of the major risk factors for cardiovascular diseases.

2. CASE REPORT

A 32 years old right handed male patient was a K/C/O obesity (obesity 1 grade BMI-32.3) since past 3 years & patient was not a known case of any other metabolic disorders, presented with the complaints of drastic weight gain since past 3years. He also complains of heaviness in the body, profuse sweating with bad odour, excessive thirst, excessive hunger, lethargy, difficulty in breathing by doing mild work and with general debility since 2-3 months. Past history- Before consulting our hospital he has followed ketogenic diet and work out in the gym to lose the weight which yielded no results and he took some allopathic medication and details were not available. The patient didn't get complete relief of the symptoms, later he consulted to our hospital JAIN AGM AMC VARUR (KARNATAKA) OPD- NO 2001477 on 2th February 2020. Since childhood, patient was following sedentary life style, following the food habit which was composed more of sweets, cart food and of non-vegetarian food four times a week, patient belongs to upper middle class in socio economic status, occupationally patient was driver. Apart from this, he didn't suffer from any other medical conditions like hypertension, Asthma, Thyroid disorders etc. There was no family history related to this condition.

2.1 CLINICAL FINDINGS

Table 2: General Examination[9]

Clinical Condition	Weak
Height	147.5cms
Weight	70 kg
Skin	Normal
BP	128/88 mm of hg
BMI	32.3 kg/m^2
Pulse	80/min
Respiratory rate	20/min
Temperature	37.3^{0C}
Tongue	Mild coated
Pallor/cyanosis/clubbing/edema/lymphadenopathy	Absent

Table 2 Illustrates the general examination of the patient where it's mainly concentrated on the height, weight, and body mass index of the patient. Here BMI of the patient is 32.3kg/m^2 where it is indicative of morbid obesity

Table 3: Systemic Examination[10]

CNS		Well oriented person , conscious
CVS		Duel sound (s1 and s2) present
RS		B/L symmetrical , normal vesicular breathings are heard , no added sounds heard
GUT		Normal
GIT		Soft and no organomegaly
LOCOMOTOR	SYSTEM	Numbness and heaviness in RUL and LL , pain in RUL and LL

Table 3 Illustrates the systemic examination of the patient. Numbness and heaviness in the thigh region is the indicative of increase in the weight of the patient & it is one of lakshanas(symptoms) of medo vruddhi(obesity).

Table 4: Ashtavidha Pariksha (Eight Fold Examination Technique)[11,12]

NADI (examination of pulse)	80/min regular
JIHWA (examination of tongue)	Mild coated
MALA (examination of stool)	Twice per day with nirama mala
MUTRA (examination of urine)	2-3 times per day , normal colour
SHABDHA (auscultation)	Normal
SPARSHA (palpation)	Normal
DRIK (inspection)	Normal
AKRITI (examination of whole body)	Madyama(moderate)

Table 4 Ashta vidha pariksha mentioned in yogaratnakara Samhita, Ashta vidha sthana pariksha is suggestive of the preliminary examination in our classics.

2.3 *Investigations - Done Before Treatment*

1. HB = 11.4 gm %
2. Total count = 6200 cell / cumm
   - Neutrophils = 60%
   - Lymphocytes = 34%
   - Eosinophils = 04 %
   - Monocytes = 02 %
3. RBS = 131mg/dl
4. LIPID PROFILE TEST:-
   - Serum cholesterol = 260mg/dl
   - Serum triglycerides = 180mg/dl
   - Serum HDL = 45mg/dl
   - Serum LDL = 180 mg/dl
5. URINE EXAMINATION REPORT: -
   - Albumin – NIL
   - Sugar – NIL
   - Urine micro – 3 to 4 pus cells / hpf

3. MATERIALS AND METHODS

Source of Data: A diagnosed case of *Sthoulya* (Obesity) was selected from Kayachikitsa-OPD of Jain AGM Ayurvedic Medical College and Hospital, Varur (Karnataka**).** Written consent was taken from the patient to conduct and to publish the work"

3.1 *Herbal Formulation* – *Virkshamla* extract- Dry fruits

3.1.1 Method of preparation

Raw drug of *vrikshamla* fruits was first tested for the quality and subjected for cleaning to separate physical impurities and drug was made into coarse *powder* with the help of *khalva yantra(mortar)* and then subjected for next procedure to get water extract of the *vrikshamla* by using water extracting machine. The extractive obtained was fine powder was formulated into capsule of 'o' size with 500mg each with the help of capsule filling machine.

3.1.2 Drug preparation

was done at GMP certified Ayur Vikas Research Centre, Gadag, Karnataka.

3.2 *Parameter of Assessment*[13-15]

1) SUBJECTIVE PARAMETERS
2) OBJECTIVE PARAMETERS

3.2.1 *Subjective Parameters – Criteria- Clinical – Gradings*

Assessment of subjective parameters was done by using symptom- Rating scale as following

Table 5 : Assessment Of Subjective Parameter (Clinical –Gradings)

Symptoms:	*Score:*
Absent	*0*
Mild (Irregular)	*1*
Mild (Regular)	*2*
Moderate	*3*
Severe	*4*

1.Assessment of Kshudha aadhikya (Excessive hunger)	
0-	*becomes hungry after about 6hrs*
1-	*becomes hungry after about 4-5 hrs*
2-	*becomes hungry after about 3hrs*
3-	*becomes hungry after about 2-3hrs*
4-	*becomes hungry after about 2hrs*

2.Assessment of Sphik Sthana Udara Lambana(accumulation of fatty tissues in buttock, breast, and abdominal region)	
0-	*Absence of Chalatva(movement)*
1-	*Little visible movement (in the areas) after fast movement*
2-	*Little visible movement (in the areas) even after moderate movement*
3-	*Movement (in the areas) after mild movement*
4-	*Movement (in the areas) even after changing posture*

3. Assessment of Pipasa aadhikya (Excessive thirst)	
0-	*Drinks about 8-10 glass of water daily*
1-	*Drinks about 10-15 glass of water daily*
2-	*Drinks about 15-20 glass of water daily*
3-	*Drinks about 20-25 glass of water daily*
4-	*unable to have a sound sleep for his thirst*

4. Assessment of Kshudra shwasa (Breathlessness)	
0-	*No shortness of breath*
1-	*Mild dyspnoea after physical exertion relieved on rest*
2-	*Moderate dyspnoea after physical exertion*
3-	*Dyspnoea even after daily routine*
4-	*Breathless even at rest*

5. Assessment of Swedaadhikya (Excessive sweating)	
0-	*Normal perspiration*
1-	*Mild perspiration after doing exertion*
2-	*Increased perspiration after doing little exertion*
3-	*Profuse perspiration after doing little exertion*
4-	*Perspiration without exertion*

6. Assessment of Atinidra (Excessive sleep)	
0-	6-8 hrsorday sleep
1-	8-10hrsorday sleep
2-	10-12 hrsorday sleep
3-	12-14 hrsorday sleep
4-	>14 hrsorday sleep

7. Assessment of Daurbalya (General debility)	
0-	Feeling of well being
1-	Tired after doing strenuous physical activity
2-	Tired after doing moderate physical activity but can do daily activity
3-	Perform daily activity with difficulty
4-	Extremely tired to carry out daily routine activity

8. Assessment of Gaurava (Heaviness of the body)	
0-	No feeling of heaviness.
1-	Occasional feeling of heaviness.
2-	Continuous feeling of heaviness, but patient does usual work.
3-	Continuous feeling of heaviness which hampers usual work.
4-	Unable to do any work due to heaviness.

9. Assessment of Alasya (Letharginess)	
0-	Normally active.
1-	I Hesitated to start work but once I started to complete it.
2-	Start work but do not complete it.
3-	Doesn't have desire, works under compulsion.
4-	Doesn't start work.

Table 5 Elucidates the assessment criteria of all the subjective parameters of the disease sthoulya roga(obesity). Along with that grading's have been given to all the individual criteria specifically based on the symptoms of the disease.

3.2.2 *Objective Parameters*

1) Body weight (kg)
2) Body mass index, BMI = kg/m2
3) Body circumference- measurements (at upper mid arm, chest, abdomen , waist, hip, lower mid-thigh and mid-calf)
4) Blood pressure
5) Lipid profile test a) serum cholesterol – above – 200mg/dl b) serum tri – above – 165 mg/dl c) serum LDL above 150mg/dl d) serum HDL below 70mg/dl

3.3 THERAPEUTIC INTERVENTION

1. Tab *Agnitundivati* [15,16] 2tid was given for 2 days as *kosthashuddi (cleansing therapy)*
2. *Swadishtavirechana churna*[18,19]2 tsp HS with warm water for 1 day
3. Cap *Vrikshamla* [20] 500mg 2bd Before Meal along with lukewarm water 60 days

FOLLOW UP: follow up was done once in every 15days

3.4 ASSESSMENT CRITERIA

Assessment of subjective and objective parameters are done Before and After the treatment. i.e. on 0th day and 60th day respectively.

TABLE 6: DETAILS OF TREATMENT PLAN

S.No	Opd	Date	Medication	Duration
1	OPD	2 / 2 / 20 to 3 / 2 / 20	Tab *AgnitundiVati* 500mg 2TID	2 days
2	OPD	4 / 2/ 20	*SwadishtaVirechana* churna 2TSF – HS	1 day
3	OPD	5 / 2 / 22 to 19 / 2 / 20	Cap *Vrikshamla* 500mg 2BD B/M – luke warm water	15 days
4	OPD	20 / 2 / 20 to 5 / 3 / 20	Cap *Vrikshamla* 500mg 2BD B/M – luke warm water	15 days
5	OPD	6 / 3 / 20 to 20 / 3 / 20	Cap *Vrikshamla* 500mg 2BD B/M – luke warm water	15 days
6	OPD	21 / 3 / 20 to 5 / 4 / 20	Cap *Vrikshamla* 500mg 2BD B/M – luke warm water	15 days

Table 6 Illustrates the complete therapeutic intervention to the patient from day 1 to day 60

4. RESULTS

Table 7: Effect of *Vrikshamla* (Garacinia Cambogia) on subjective parameters before treatment and after treatment on *sthoulya*

S.No	Symptoms	Bt	At
1	*KshudhaAdhikya* (excessive hunger)	3	2
2	*Sphiksthanaudharalumbana*	3	2
3	*PipasaAdhikya* (excessive thirst)	3	0
4	*KshudraSwasa*(breathlessness)	2	0
5	*SwedaAdhikya*(excessive sweating)	3	2

6	*AtiNidra*(excessive sleep)	2	0
7	*Dourbalya* (general debility)	2	0
8	*Gaurva* (heaviness of body)	3	0
9	*Alasya* (letharginess)	2	0
10	**Total score**	23	6

Table 7 Highlights the efficacy of the vrikshamla on the subjective parameters. Showing the results in each criteria pre and post treatment on sthoulya(obesity)

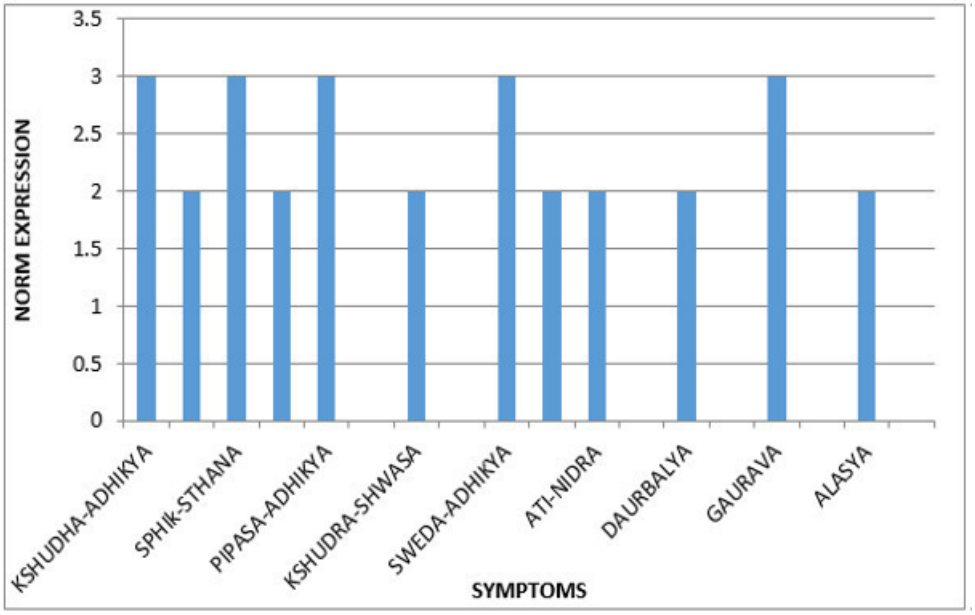

Fig -1 Illustrates The Difference Between Before and After Treatment in The Subjective Parameters of the Patient

Ii) Objective Parameters

Table 8: Comparison of objective parameters before and after treatment

Weight (kg)			BMI (KG/M²)			SERUM-CHOLESTEROL			SERUM-TRIGLYCERIDS			HDL			LDL		
						mg/dl	mg/dl	mg/dl	mg/dl	mg/dl	mg/dl	mg/dl	mg/dl	mg/dl	mg/dl	mg/dl	mg/dl
BT	AT	DIFF	BT	AT	DIFF	BT	AT	DIFF	BT	AT	DIFF	BT	AT	DIFF	BT	AT	DIFF
70	64	6	32.2	29.4	2.8	260	210	50	180	140	40	45	50	5	180	145	35

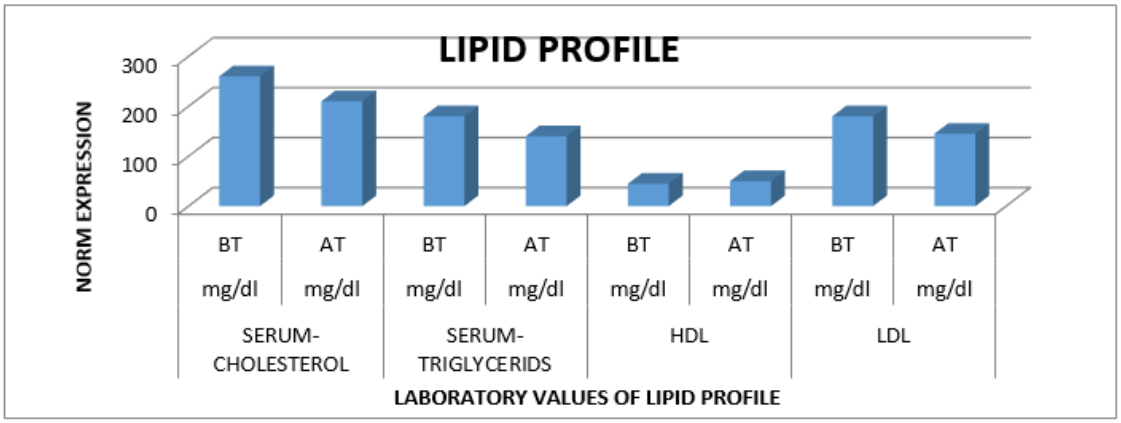

Fig 2: Illustrates The Difference in Lipid Profile Before and After Treatment in the Patient

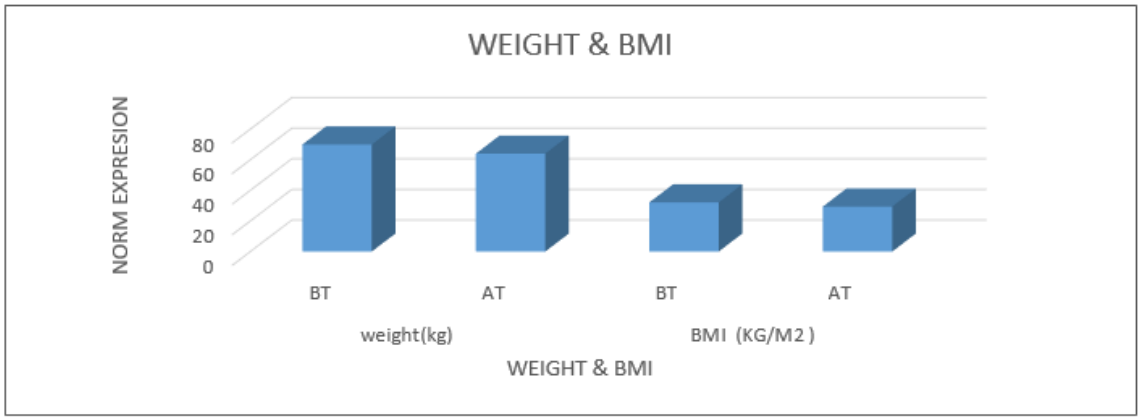

Fig 3: Illustrates The Difference in Weight and BMI Before and After Treatment in The Patient

Table 9: Comparison of objective parameters before and after treatment on body measurements

CHEST CM			ABDOMEN CM			WAIST CM			WAIST-TO-HIP RATIO			MID-ARM CM			MID-THIGH CM			MID-CALF-CM		
BT	AT	DIFF	BT	AT	DIFF	BT	AT	DIFF	BT	AT	DIFF	BT	AT	DIFF	BT	AT	DIFF	BT	AT	DIFF
80	75	5	70	65	5	70	65	5	0.90	0.86	0.04	27	24	3	50	45	5	27	25	2

Table 8 &9 Highlights the efficacy of the vrikshamla on the objective parameters. Difference in each parameters shows efficacy of drug on the disease sthoulya roga w.s.r to dyslipidaemia

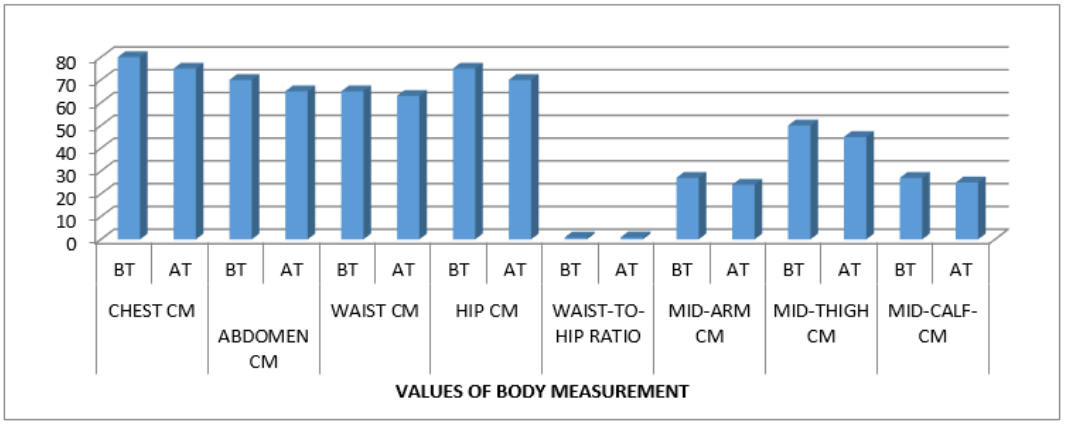

Fig 4 Illustrates The Difference in Body Measurements Before and After the Treatment in the Patient

Ahara and vihara

Patient was advised to stick to *aharaja pathya* and *apathya* and *viharaja pathya* and *apathya* which is mentioned in the table no 10 and 11 respectively.

Table 10: *Aharaja Pathya–Apathya* (diet do's and don'ts) for Obesity[21]

PATHYA(DO'S)	*APATHYA(DON'TS)*
Yava(Barley),Kodrava (Kodomillet)	*Godhuma (Wheat), Navanna (new harvested crops),shali(Rice)*
Mudga(Mung),Rajamasha (Cowpeas), Kulatha (Horse gram), Chanaka (Chickpeas)	*Masha (Blackgram), Tila (Seasamum)*
Patola(Wild snake guard)	*Madhuraphala(sweatfruits)*
Takra (Buttermilk), Madhu (Honey), ushnodhaka (Warm water), Sarshapa Taila (Mustardoil), Arista, Asava, JeernaMadya(Alcoholandwines)	*Dugda (Milk), navaneeta (Butter), dadhi (Curd)*
Rohitamatsya (Rohufish)	*Anupa(marshy land animal meat), gramya (Arid Land animal meat)*

Table 10 Emphasizes the diet (dos and don'ts) to the patient during the course of the treatment and after the treatment. As well.

Table 11: *Viharaja Pathya–Apathya* (Routine DO'S and DON'TS) for obesity[22]

PATHYA (DO'S)	APATHYA (DON'TS)
Srama (Physical effort)	Divaswapna (Daysleep)
Jagarana (Awakening at night)	Avyayama (Nonpractice of physical exercise)
Vyayama (Exercise)	Avyavaya(Avoid sexual indulgence)
Achintana (NO Stress)	Sukhashayya (Sedentary life style)
	Nityaharsha (Avoid ingactive work)
	Chintana (stress)
	Sheetalajalapana (Avoid cold water)

Table 11 explains the dos and don'ts on daily activities to the patient during the course of the treatment and after the treatment. As well.

Fig 5: *Garacinia Cambogia* Wet Fruits

Fig 6 *Garacinia Cambogia* Dry Fruits

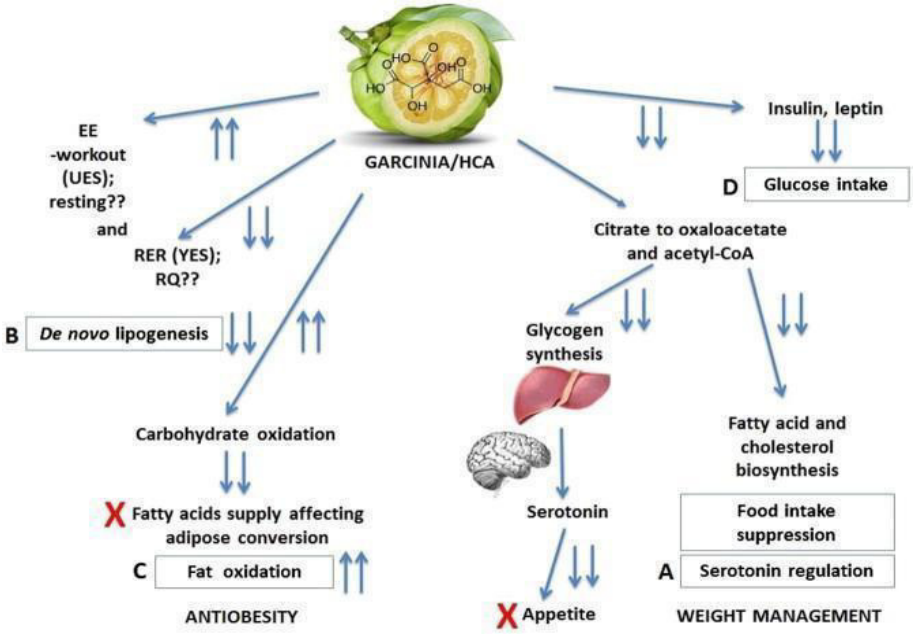

Fig 7 : Mechanisms for Anti-obesity effect of Garcinia/HCA.[38]

5. DISCUSSION

In *sthoulya roga*, *Meda dhtau* (adipose tissue) is taken as the principal *Dushya* in *sthoulya* roga[7,8] and it is recently confirmed in modern medicine, where the central obesity and dyslipidaemia are being considered as the main components of the basic matrix of obesity and dyslipidaemia. The recent concept of the Metabolic Syndrome also seems to have been conceived in Ayurveda. It is suggested that, the focus of research and development should be around Metabolic Syndrome [23,24] as a preventive measure on one hand and prevention and management of complications on the other hand. Tool to control dyslipidaemia, hyperglycaemia, and anti-hypertensive is no more a big problem, but problem is lifelong use of these drugs. The central point of consideration on this day is to prevent the consequence of metabolic syndrome like obesity[25,26], dyslipidaemia and other such disorders. [27] In Ayurveda the action of drug is determined on *pharmacodynamic* factors as Rasa(taste)-*Guna(properties)*-*Veerya(potency)* and *Vipaka* along with certain specific properties called as Karma(action). *Vrikshamla* (Extract). The extract (water based) of *Vrikshamla* fruits has *Amla*, *Katu* and *Madhura* Rasa. It also has *Laghu(lightness)* and *Ushna Guna* (hot in potency) with predominance of Vayu and Agni Mahabhuta. The *Deepana (appetizers), Pachana (digestant)* and *Kapha-Medohara* properties of *Vrikshamla* are also mentioned[28]. Due to its *Laghu* and *Ushana Guna* it digests the *Amasanchaya (toxic substance)* and clears the *Srotorodha (obliteration of channels)*. It contains mainly *AmlaRasa* which has the property of *Agnideepana(appetizers)* also predominance of Vayu and Agni *Mahabhuta* makes it *Laghu*[29]. *Dravya* having inherent tendency of *Agnisamdhukshana (increase the digestive fire)*[30] (Ch.Su. -5/6). So, based on these factors it is quite acceptable that *Vrikshamla* digest the *Amasanchaya*, clears the *Srotorodha* and improves the status of *Jatharagni(digestive fire)* and *Dhatvagni(tissue metabolism)*. Moreover, modern science has also shown interest in Vrikshamla. Many studies have shown that intake of HCA present in *vrikshamla* (garcinia cambogia)[31] reduces appetite, inhibits lipogenesis[32-33] and reduces body weight. The active component of Garcinia Cambogia is hydroxycitric acid (HCA). A compound that inhibits the enzyme ATP citratelyase. which involved in endogenous lipid biosynthesis. Hydroxycitric-acid also increase hepatic glycogen synthesis. Suppresses appetite and decrease body weight gain. Its acts on anti-hyperlipidaemia, Anti-obesity. The efficacy of the *vrikshamala* shown a good outcome on subjective criteria (table no 7) such as *KshudhaAdhikya* (excessive hunger) *Sphik sthana udhara lambana*,[34] *PipasaAdhikya* (excessive thirst) *KshudraSwasa* (breathlessness), *SwedaAdhikya* (excessive sweating), *Atinidra* (excessive sleep), *Dourbalya* (general debility), *Gaurva* (heaviness of body), *Alasya* (lethargies). The total score of the subjective parameter before treatment was 23 and after administration of *vrikshamala* for 60 days show a score of 6. Which shown the difference of 17 and an overall improvement of subjective parameters is 37.7 % which proves the drug is having a moderate influence over the disease [35]. In our study, there was a significant difference in the objective parameters as well, the difference between the score of weight of the patient was 6kgs after the treatment, in BMI of the patient there was difference of 2.8 kg/m2 after the treatment. There was a significant change in the value of lipid profile of the patient (table no 8), reduction of 50mg/dl in serum cholesterol level, 40mg/dl in serum triglycerides level and reduction of 35mg/dl in LDL level. There was an increase of 5mg/dl in the HDL levels of the patient. Other objective parameters [36] (Table no 9) like chest circumference, abdomen circumference, waist, waist to hip ratio, mid-arm circumference, mid-thigh circumference and mid-calf circumference also showed a difference in the values which were measured before and after treatment mentioned in the table no 9. The circumference of chest, abdomen, waist and mid-thigh was reduced by 5 cm after the treatment. And there was reduction in the mid arm circumference by 3cm and 2cm in mid-calf circumference. This shows that drug *vrikshamla*[37](Garacinia cambogia) is effective in the management of sthoulya (obesity) with respect to dyslipidaemia. The management of STHOULYA/Metabolic syndrome in conventional systems of medicine is still not satisfactory and warranting newer strategies from other resources. It seems to explore an Ayurveda inspired line of management for tackling STHOULYA[39](Obesity) or Metabolic syndrome and preventing its life threatening complications. In the present case study *Vrikshamla* (Garcinia Cambogia) was selected for treatment of STHOULYA(Obesity) because of its Medohara (Reduce fat) cardio protective, Anti-Oxidant and lipid peroxidation, in habitation properties. This study may be further evaluated for clinical utility and planning of the treatment of STHOULYA (obesity) In order to achieve definite conclusion, large scale study can be conducted.

6. CONCLUSION

Decisively concluding that, administrating *vrikshamla* in STHOULYA exerts beneficial effect as normalization of deranged lipid profile, body weight, BMI. The clinical symptoms subsided and unwanted effects are not detected at the end of therapy. Thus, the chosen measure is helpful to the patients of Obesity, Hypertension, CAD, Metabolic Syndrome etc.

7. AUTHOR CONTRIBUTION STATEMENT

Dr Ishwarayya S Mathapati conceptualized and gathered the data with regard to this case report. Dr Manu R provided valuable inputs on the manuscript. Dr Punith P curated the data and provided valuable inputs towards the designing of the manuscript. Dr Jyothi R H gave the necessary inputs and managed the literary searches. All authors discussed and contributed to the final version of the manuscript.

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9. CONFLICT OF INTEREST

Conflict of interest declared none.

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