Exploring the Ayurvedic perspective of Lipid Disorder: Insight of Meda Dhatu

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ABSTRACT

In present era Obesity (Sthaulya) has become a big problem in the world. In Modern science Sthaulya can be considered as Obesity and various criteria for Obesity was already mentioned in modern science. The scattered evidence of Sthaulya are found in Vedas as well as in Bhavaprakasha, Yogratanakar, Caraka Samhita, Sushruta Samhita, Madhav Nidana and various other Ayurvedic literatures. The relation between vitiation of Meda Dhatu was defined by Acharya Caraka under the heading Sthaulya and mentioned by Acharya Sushruta in Samprapti of Sthaulya. In Ayurveda Meda is classified into Baddha Meda and Abaddha Meda. Abadha Meda can be correlated with Lipid mentioned in allied science. **Objective of study:** To assess the status of Meda Dhatu in reference to total Cholesterol and Triglyceride. **Materials & Methods:** To fulfill the above aim and objectives, 50 patients between the age group of 16-70 years of age fulfilling the inclusion criteria were registered for study and data was collected with the help of questionnaire based on classical features of Vridhi and Dushti of Meda Dhatu. **Conclusion:** The study revealed that with increasing level of Total Cholesterol Meda Dhatu Vridhi Lakshan also increases but no change was found with the Lakshana of Meda Dhatu Dushti on the other hand, directly proportional relation was found between level of Triglyceride and Meda Dhatu Dushti Lakshan.

Key words: Meda, Dhatu Vridhi, Dushti, Samprapti, Obesity, Sthaulya.

INTRODUCTION

Life style metabolic disorders are our own creation. With the evolution of civilization human has become more and more physically inactive. Modernization, affluence, science and technological development lead to sedentary lifestyles. Such behaviors are trending countries and acquiring urban as well as rural region too. This is transferable from one top other region like the pattern of infectious diseases. After exposing to these factor human beings unknowingly invites various diseases one of them is Obesity (Sthaulya). Obesity has reached epidemic proportions globally. According to WHO report, there are more than 250 million obese adults and about 1.1 billion overweight people worldwide. According to the recent report of National Family Health Survey (NFHS-5, 2019-21), prevalence of Obesity in India was 23% and 24% among men and women aged 15-49 years respectively are obese. Obesity can be seen as the first wave of a defined cluster of non-communicable diseases called “New World Syndrome,” creating an enormous socioeconomic and public health of 21st century in both developed and developing countries.

We correlate Obesity with Sthaulya also known as Meda Roga mentioned in Ayurveda. According to
Acharya Caraka, Sthautya is considered under Asthana Indita Purusa.[4]

इह खलु शरीरमधिकृयां ऊषिः लिन्दिता भविति; तद यथा
– अतिदीथ्यं, अतिहर्ष्यं, अतिलोमं, च, अलोमं च,
अतिकृष्णं, अतिगौरं अतिसुपुरुं, अतिकृष्णञ्च ||

Acharya Caraka had defined Sthautya as

मेदोमांसातितृकृत्वा च्यलसिन्धुरस्तनवः अथोपचयोत्साहो
नरोत्तिस्यूल उच्चयते || (Ch. Su 21/9)

Excessive deposition of Meda and Mamsa at various body parts such as Sphika (Hip), Udara (Abdominal) and Stan (Chest) and also having unequal abnormal distribution of Meda with lack of enthusiasm is called as “Atisthūla”.[8]

The relation with vitiation of Meda Dhatu and Sthautya was defined by Acharya Caraka in its Samhita under the heading Sthautya and mentioned by Acarya Sushruta in Samprapti of Sthautya.[16]

In Ayurveda Meda is classified into Badha Meda and Abaddha Meda.[17] Abadha Meda can be correlated with Lipid mentioned in allied science.

According to WHO Obesity and overweight is defined as abnormal or excessive weight accumulation that may impair health. In modern science various parameters such as BMI, Skin fold thickness, Waist hip ratio (WHR) are described to assess Obesity.[8] Thus, Meda Dhatu is assessed with the increasing BMI and Skin fold thickness in obese with BMI greater than and equal to 30.

This is an era for Ayurveda, so an effort is made to go hand in hand with modern science to cope up with various diagnostic difficulties and also to prove methods and Lakshana described in Ayurveda as per modern science with evidence.

AIM AND OBJECTIVE

1. To assess status of Meda Dhatu Vridhi on the basis of cholesterol and triglyceride.

2. To assess status of Meda Dhatu Dushti on the basis of total cholesterol and triglyceride.

MATERIALS AND METHODS

Total 50 patients were selected from the OPD of Roga Nidhan Avum Vikriti Vigyan Department, Rishikul Campus, UAU, Haridwar between the age group of 16-70 years of age. The weight and height of patient was assessed to calculate the BMI and Skin fold thickness were measured from four sites to measure Skin fold thickness of the patients. All registered cases were evaluated as per the questions based on features of Meda Dhatu Vridhi (Table 1) and Meda Dhatu Dushti (Table 2) mentioned in Ayurvedic classics, Total Cholesterol and Triglyceride.

Table 1: Features of Meda Vridhi[9]

<table>
<thead>
<tr>
<th>SN</th>
<th>Meda Vridhi</th>
<th>Assessment via</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>असिलिपि चेतना एकान्तम्</td>
<td>dyspnea on mild exertion</td>
</tr>
<tr>
<td>2.</td>
<td>सघनेण उदर सम्बन्धम्</td>
<td>increase circumference of butt, &amp; abdomen</td>
</tr>
<tr>
<td>3.</td>
<td>सिद्धार्थ अक्रमत</td>
<td>unctuousness of body</td>
</tr>
<tr>
<td>4.</td>
<td>कांस</td>
<td>cough</td>
</tr>
<tr>
<td>5.</td>
<td>भात</td>
<td>Breathlessness</td>
</tr>
<tr>
<td>6.</td>
<td>दीर्घायुं:</td>
<td>foul smell</td>
</tr>
</tbody>
</table>

Table 2: Features of Meda Dhatu Dushti[10]

<table>
<thead>
<tr>
<th>SN</th>
<th>Meda Dushti</th>
<th>Assessment Via</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>जीवोपरम:</td>
<td>lack of enthusiasm</td>
</tr>
<tr>
<td>2.</td>
<td>कृत्तिक्षुध्वायवत्ता</td>
<td>lack of sexual activity</td>
</tr>
<tr>
<td>3.</td>
<td>दीर्घायुं:</td>
<td>Weakness</td>
</tr>
<tr>
<td>4.</td>
<td>दीर्घायुं:</td>
<td>foul smell</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Type of study - Clinical Observational study</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>A. Inclusion criteria</strong></td>
<td></td>
</tr>
<tr>
<td>Individual having BMI ≥ 30</td>
<td></td>
</tr>
<tr>
<td>Individual between the age group 16-70 years are included.</td>
<td></td>
</tr>
<tr>
<td>Individual having Skin fold thickness (sum of measurement of all 4 sites) ≥ 40mm in male and ≥50mm in female.</td>
<td></td>
</tr>
</tbody>
</table>

**B. Exclusive criteria**

- Individual of less than 16 years & more than 70 years of age.
- Individual having BMI < 30
- Individual having diabetes, renal disease, cardiovascular disease, abnormal thyroid hormone, HIV, Hepatitis B, carcinoma etc.

**C. Investigation**

1. Biochemical test - lipid profile, FBS
2. Urine examination (R/M)

**Observation**

Total 50 patients fulfilling the inclusion criteria were registered and their observations are as follows:

- Maximum patients i.e. (52%) belonged to 34-52 years of age group and (50%) patients were male and (50%) patients were female and (48%) patients were Post graduate from upper middle class (62%) with (46%) of service person with sitting nature of work (64%) and (84%) belongs to urban area with good hygiene (96%).
- Majority of the patients i.e. 50% were having good appetite followed by excessive, (86%) were taking Madhura Rasa were as 82% were taking Lavana Rasa in their dominant Rasa .72% were doing Adhyashana and 44% patient were having disturb sleep followed by excessive sleep (42%). Maximum patients i.e., 44% were having Vishamagni.
- Dasavidha Pariksa biostatistics revealed that maximum number of patients having Kapja-Vata Prakṛti (60%) followed by Kapja- Pitta Prakṛti (30%), Tamasika Manasa Prakṛti (50%), Madhyama Sara (56%), Avara Samhanana (52%), Avara Satva (48%), in Pramanam, maximum patients i.e., 84% were of Visam Pramanam. Majority of patient i.e., 58% were having Pravar Abhyavaranar Shakti, Madhyama Jarana Shakti (44%) and 84% were having Avara Vyayama Shakti.
- Aṣhtavidha Pariksha biostatistics revealed that maximum number of the patient i.e., 38% had Kapja-Vataja Nadi, 62% were having Nirama
**Discussion**

Most of the patients in this study belongs to the age group of 34-52 years i.e., Madhyam Kala increased prevalence in this age group might be due to its Kala, that, as per Acharya Caraka during Madhyam Kala all Dhatus reaches to it Paripurna Avastha. So, Sthauylya found more in Madhyam Kala and also by the concepts of allied sciences some textbooks of Davidson principle and practice of Medicine also supports the same observations i.e., excess weight gain usually starts when individuals are aged between 30 - 60 years with maximum body weight being achieved in middle age.

Adhyashana was found in maximum number of patients. The Adhyashana (taking meal on meal) forms Ama in the body result in Dhatwagnimandya i.e., of Medodhatvagnimandya leads to Sthauyly.

Alpaceṣṭahishvasan (dyspnea on mild excretion) were found in maximum number of patients. This is due to the reason that the increased work of the inspiratory muscles to expand the lungs and chest wall against the fat load as well as the reduced lung and chest wall compliance, may contribute to the increased oxygen cost of breathing during exercise and the characteristic shallow and rapid breathing pattern of obese individuals.

Snigdhamgata (unctuousness of body) was found in maximum patients, the reason might be the Sneha as one of Gun of Meda and as per Sarvadhosamamya Vridhi Karmam, Snigdhansha in body increases leads to unctuousness of body. In Obesity BMI above 30 leads to increase secretion of sebum from sebaceous glands result in oily skin texture.[14]

Spikudaralambanam was found in all registered patients. This is due to the reason that central Obesity which is most common in India. This is considered with help of increased waist hip ratio.

Maximum patients were having Daurgandhya. The reason might be the sweating increase as mentioned in Ayurveda that Sveda is the waste product of Meda Dhatu. As result of which increase production of vitiated Meda Dhatu increases Sveda. Sveda along with Kleda released leads to bacterial growth result in foul smell. Body odor occurs when bacteria on your skin break down acid in sweat. Apocrine sweat is released, it’s colorless and odorless. When bacteria on the body start to break down dried sweat, an offensive smell can result in people with bromhidrosis and as adipocytes increases result on more secretion of sebaceous glands.

Javoprodha (lack of enthusiasm) was found in maximum patients, this is due to production of Ama and Dhatvagni Mandata in pathogenesis of Sthauyly.[11] It leads to the formation of under nourished Dhatu resulting in lack of energy.

Maximum patients were having Kṛcchvyavayta the reason might be the Shukra Dhatu which is responsible for sexual activity and it is not formed properly in...
Obesity which results in reduction of sexual activity. Obese patients are more prone towards erectile dysfunctioning.

Maximum 66% patients have Daurbalya (weakness). This might be due to undernourished Dhatus as result of obstruction in Srotas and Dhatwagni Mandata.

Maximum patients were having Svedabadha (uncomfortable due to sweat). The reason might be the climate conditions of the city. The obese patient body temperature slightly high as compare to other so, the heat generated by their body alone can make it possible to sweat excessive. As per Ayurveda, Sveda is the byproduct of Meda Dhatu. As vitiation of Meda Dhatu increases, the byproduct of the Dhatu also increases leads to excessive sweating which causes discomfort to the patients in Sthautiya.

Most of patients were having the symptom of Kshaudatimatra because increasing Vata in Kostha results in increase of Agni leads excessive hunger.

40% patients were having Karapada Supta Daha. Suptabhi is one of Updhatu Pradoshaja Vikara. The reason behind this Lakshana might be the formation of vitiated Updhatu which is due to Dhatvagnimandata and obstruction in channels.

In this study most of the patients were having Alasya. The reason might be lack of energy as result of under nourishing Dhatus due to obstruction in the channel of Meda Dhatu. It was evident that junk food begets laziness, according to the lifestyle of obese patients had lots of junk food.

38% patients were having Mukhatalu Kanthashosa. As it is a symptom of Meda Dhatu Dushti (Purvarupa of Prameha) the presence of this Lakshana in 38% of patients might be due to the prediabetic conditions or may be because of other factors such as open mouth breathing, dehydration, dry and hot weather etc.

Few patients were having Mutre Ch Mutrdoshana. The reason behind the presence of urine abnormalities might be due to the diet intake and excessive urination as some patients were in prediabetic stage. But incontinence of urine was found in maximum number of patients associated with Obesity as excessive weight on abdomen put pressure on bladder and results in leaking of urine.

The reason of excessive sleep might be the predominance of Kapha, as Kapha and Tamo Guna leads to Nidra. But in my study maximum patients i.e., 56% were found of disturb sleep, because the patients registered were having small babies and day/ night shifting job. Sleep loss result in metabolic and endocrine alterations, decrease level of leptin results in increases appetite. This evidence shows that lack of sleep or loss of sleep also increases risk of Obesity.

Maximum patient were having Tandra. The reason might be lack of sleep, fatigue mind and body due to work load and stress in current scenario results in drowsiness.

**CONCLUSION**

It was found from the present study that the Lakshan mentioned in Ayurveda for Meda Dhatu Vridhi and Meda Dhatu Dushti have a relation with Modern Parameters. On basis of Abadha Meda mentioned by Chakarpani a correlation was done with lipid profile and found that level of Total Cholesterol increases with increasing Meda Dhatu Vridhi Lakshan but no relation with Meda Dhatu Dushti Lakshan was found whereas level of Triglyceride had direct relation with Meda Dhatu Dushti Lakshan but no relation with Meda Dhatu Vridhi Lakshan. On the basis of this study, we can say that the patients with increasing total Cholesterol level should be treated with Ayurvedic perspective of Meda Dhatu Vridhi Lakshan and on the other hand increasing Triglyceride level should be treated with Ayurvedic perspective of Meda Dhatu Dushti Lakshan.

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