OBSERVATIONAL STUDY TO DETERMINE ATI SWED PRAVARTAN IN STHAULYA WSR TO HYPERHYDROSSIS IN OBESITY

Snehal Ganpat Burande¹, Deepali J Amale²

¹PG Scholar, ²MD Rog Nidan, Rog Nidan and Vikriti Vigyan Department, CSMSS Ayurvedic Collage Aurangabad, Maharashtra, India

ABSTRACT

Ati swed pravartan as described by Charaka in sutrasathan adhyay 21 is one of the main Lakshana among eight Lakshanas of atisthauthya. It is found that there is excess sweating in overweight person than lean body person while doing day to day activity. Objective: To know pathophysiology behind excess sweating or hyperhydrosis in obese patients. Design: Sthula Rugna having udara lambanam, ayatha upachaya of med dhatu and BMI above 27 were selected. They were assessed for 1) Body fat %, 2) hip waist ratio 3) Abdominal Girth 4) Degree of Excess sweating. Results: n=50, 1)58% Female and 42 % male have BMI above 27 2) 56% female have fat% above 25% and 40 % Male have body fat % above 20% 3) 58% Female have abdominal girth above 80cm and 42 % male have Abdominal Girth above 90 cm 4) 56% Female have hip waist ratio above 0.7 and 32% male have Hip Waist Ratio above 0.8 5) a)14 % female & 6% male have Grade 1 sweating b) 42% Female & 32% male have Grade 2 sweating c) 4% female & 4% male have Grade 3 sweating Discussion: If individual weights more, sweat rate is likely to increase because body must exert energy to function than lean body person.

Keywords: Sthaulya, Swedabadh, Obesity, Hyperhydrosis.

INTRODUCTION

Ayurveda emphasizes on real knowledge of many metabolic disorders of today’s era. Stthaulya is one among them. Charaka and chakrapani in Sutrasthan Adhyay 21 mentioned and elaborated main eight Lakshnas of Atisthauthya. Ati sweda Pravartan (Swedabadh) is one among them. Sweda is Mala of Med Dhatu and Medo Mulam is Sthana of Swedvaha Strotas it is suggested that there is correlation between Swed Vaha and Medvaha Strotasa. In Stthaulya there is Dushti of Med Dhatu this may affect production of sweda. So, sweda is produced in large quantity as compared to lean body person. Overweight and excess sweating goes hand in hand because body is doing extra work internally to maintain the body functions that are needed to support extra weight that have gained. When 50 patients of obesity were examined 40% patients get irritated due to excess sweating while doing day to day practice. So increased sweating does have close relationship with being overweight because those who suffers from obesity or being overweight have less tolerance threshold in respect to sweating. So pathophysiology be-
hind this hyperhydrosis (excess sweating) in obesity is understood.

**MATERIALS AND METHODS:** 50 patients having BMI above 27 coming to OPD were selected.
1) Male and female Age group between 18 to 45 selected.
2) All the patients assessed for body fat % by fat monitor.
3) Abdominal girth measured
4) Hip Waist Ratio (HWR) calculated.
5) Degree of excess sweating asked.

1) **BMI -** Body Mass Index is value derived from weight and height of individuals. It is calculated by Body Mass/weight divided by square of body height. It is universally expressed as Kg/m².
2) **Body Fat Percentage -** It is calculated with help of body fat monitor. It works on Bio-electric Impedance. In this it sends small impercentile, safe electric current through body measuring the resistance. Current faces more resistance in obese body than it faces while passing through lean body mass and water. (7)

<table>
<thead>
<tr>
<th>N=50</th>
<th>BMI</th>
<th>Fat%</th>
<th>Abdominal girth</th>
<th>HWR</th>
<th>Grade1 Sweating</th>
<th>Grade2 Sweating</th>
<th>Grade3 Sweating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>42%</td>
<td>40%</td>
<td>42%</td>
<td>32%</td>
<td>6%</td>
<td>32%</td>
<td>4%</td>
</tr>
<tr>
<td>Female</td>
<td>58%</td>
<td>56%</td>
<td>58%</td>
<td>56%</td>
<td>14%</td>
<td>42%</td>
<td>4%</td>
</tr>
</tbody>
</table>

**DISCUSSION**

- Sweda is mala of med dhatu so dushti of med dhatu may affect the sweda production. swedawah strotas is situated in med dhatu which is deepest layer of skin.
- According to chakrapani: Shleshma in sansarg with Med Dhatu produces Sweda in excess quantity even with small exercize. (8)
- In Sthaulya samprapti Agni Sandhushan is observed. This may increases ushna guna of Pitta which increases body temperature. This raised body temperature may increase sweda. (9)

Hyperhydrosis: It is a condition characterized by increased sweating in excess of that required for regulation of body temperature.
Sweating allows the body to regulate its temperature. In obese individuals, there is more production of heat because the body has to work harder than in lean individuals. This heat increases the body temperature. An increased temperature stimulates sweat glands to produce more sweat. Obese patients have more sweat glands per square inch area than non-obese patients. This also increases sweat production. (10) There are two types of sweat glands: Eccrine sweat glands, which are present all over the body, and Appocrine sweat glands, situated on the armpit and genital areas. Sweat glands are supplied by postganglionic nerve fibres of the sympathetic nervous system while thermosensitive neurons are located in the preoptic and anterior regions of the hypothalamus. In obese individuals, a lot of heat is generated even with small exercise, which increases body core temperature. This high temperature stimulates the hypothalamus as well as sympathetic nerve fibres attached to sweat glands. This produces acetylcholine at the sympathetic nerve endings by which sweat glands are supplied. These sympathetic stimulation increases sweat production. Sweat glands produce primary secretion similar to plasma from the interstitial fluid. As more sweat is produced due to stimulation to glands, there is no absorption sweat in the straight part of sweat gland, and more sweat is produced on the skin surface. Sweat itself is odorless. Appocrine glands produce sweat containing proteins and fatty acid, and they are metabolized by bacteria on the skin and produce odor. But Eccrine glands do not produce sweat containing proteins and fatty acid, so they do not produce odor. (11)

**CONCLUSION**

If some becomes fit, the body becomes more efficient at regulating the body’s temperature, and sweat glands adopt along with the body’s system. If prevention of overweight is done at the stage of excess sweating only further stage of morbid obesity and its complications can be prevented.

**REFERENCES**

8. Chakrapanidutta, commentator, Charaka Samhita, Sutrasthan, Ashtoninditiya Adhyay, 21/4, chaukambha Sanskrit Prakashan


CORRESPONDING AUTHOR
Dr. Snehal Ganpat Burande
75 Shahnoorwadi Devanagari, Behind Dargah Aurangabad, Maharashtra, India.
Email: sandhalkar750@gmail.com

Source of support: Nil
Conflict of interest: None Declared