

## Clinical evaluation of lab investigations on medoroga

Dr.Rupali Sharma<sup>1</sup>, Dr.Vishal Sharma<sup>2</sup>, Dr.Ankita Thakur<sup>3</sup>, Dr.Bhawna Sharma<sup>4</sup>, Dr.Rahul<sup>5</sup>

*Asst Prof., Dept of Rognidana evum vikriti vgyan, Abhilashi Ayurvedic Collegeand Research Institute, Chailchowk, Mandi.*

*AssociateProf. , Dept of Kriya Sharira (HOD), Abhilashi Ayurvedic College and Research Institute, Chailchowk, Mandi.*

*Asst Prof., Dept of Rognidana evum vikriti vgyan, Abhilashi Ayurvedic College and Research Institute, Chailchowk, Mandi.*

*Asst Prof., Dept of Panchkarma,Abhilashi Ayurvedic College and Research Institute, Chailchowk, Mandi.*  
*AssociateProf., Dept of Shalakya Tantra, Abhilashi Ayurvedic College and Research Institute, Chailchowk, Mandi.*

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**ABSTRACT:** Medoroga is not mentioned as separate entity but Acharyacharaka has described Sthaulya(medoroga) as one among the AshtaninditaPurusha. The term Medorogawas first used by AcharyaMadhava. Literally it means a disease in which MedoDhatuis deranged. In pathogenesis of Medoroga, Meda, Kapha, Vata and Agni are the main responsible factors. Evaluation of the FBS, PPBS and levels of Lipid Profile in the clinically diagnosed patients of Medoroga has been done. It is an observational study on 50 patients diagnosed as Medoroga whose BMI is more than 25. Signs and symptoms of patients were assessed clinically with a detailed history, Physical examination, BMI, Laboratory findings vis-à-vis Lipid Profile, FBS and PPBS were assessed. This observational study shows that Lipid Profile, FBS and PPBS were found raised in the clinically diagnosed cases of Medorogahaving BMI > 25.

**Keywords:**Medoroga, MedaDhatu, Obesity, Hyperlipidemia, Diabetes Mellitus, Metabolism, Lipid Profile, FBS, PPBS , BMI.

### I. INTRODUCTION:

“Science of life” i.e. Ayurveda is based on achieving, maintaining and promoting positive health. Now a days, due to change in dietary habits, environment, sedentary life style and not able to follow proper Dincharya, Ritu-charya, Dietic Rules and Regulations various health hazards occurs. The industrialization, stress, lack of exercise and various varieties of food in daily diet e.g. Fast food, frizzed fruits, soft drinks and beverages, canned foods may results into clinical entity which is leading to impairment of metabolism, effecting an individual health making him prone to various disorders called a Lifestyle Disorders. Medoroga is

one among them which affects the mental, physical and social well-being of people. In Ayurveda also Medais consider as prime dushyain context of different diseases like- Prameha, Medorogaand Sthaulyaetc. Medoroga is not mentioned as separate entity but Acharyacharaka has described Sthaulya (Medoroga) as one among the Ashtaninditapurusha. In pathogenesis of Sthaulya, meda, kapha, vata and agni are the main responsible factors. Sthaulyahas eight doshas like shortening of life span (Ayushohrasa), derranged movements (Javaprodha), difficulty in sexual intercourse (Krichravayavayata), general weakness (Daurbalya), foul smell from body (Daurgandhya), over sweating (Svedabadha), increased hunger (Atikshudha), excessive thirst (Atipipasa)<sup>(1)</sup> which leads to excessive increase in quantity of Medaand MamsaDhatu (Medomamsaativridhatvata), leading to pendulous movements of buttock , abdomen and chest (chalsphikastanaudara), with morphological disproportion, such person suffers from lack of energy (Ayathoapachayoutsaho).<sup>(2)</sup> Sthaulya, MedorogaandMedodoshave been described to be synonymous to each other. The term Medorogawas first usedbyAcharyaMadhava. Literally it means a disease in which Medo- Dhatuis deranged. The concept of Medoroga is enlightening about the different modern day diseases specially Obesity, Metabolic Syndrome, Diabetes, Hyperlipidemia etc. but on the basis of previous studies done by the scholars it is best correlated with obesity and it is clinically characterised by unique features like excessive thirst, excessive hunger, movement of abdomen, buttocks and breasts due to accumulation of fat, exhaustion, excessive sleep, heaviness of body etc. <sup>(3)</sup> Obesity is a chronic disease and increasing problem that lead to significant health,

social difficulties and increased risk of premature death. It is the major health care problem which has become a great challenge for 21<sup>st</sup> century. Day by day the prevalence of obesity is increasing in Indians particularly in the urban population. An obese or overweight person is always prone to different types of diseases like hyperlipidemia, hypertension, atherosclerosis, diabetes mellitus, osteoarthritis etc. as well as other psychological disorders like stress, anxiety, depression. Obesity is a serious health hazard and may predispose to a number of clinical disorders.<sup>(4)</sup>In India, WHO says that the proportion of people overweight will increase from 9% to 24% in between 1995 to 2025 and warns that unless action is taken by 2020, there will be 5 million deaths attributed to overweight and obesity worldwide compared to 3 million now, where sedentary lifestyle and unhealthy food habits being a causative factors resulting in many serious systemic complications like obesity, diabetes, hypertension, hyperlipidemia etc.<sup>(5)</sup> In 2016, more than 1.9 billion adults, 18 years older were overweight. Of these over 650 million were obese. 39% of adults aged 18 years and over (39% men and 40% women) were overweight in 2016 & 13% were obese. Most of the world population lives in countries where overweight and obesity kills more people than underweight. 41 million children under the age of 5 were overweight or obese in 2016. Over 340 million children and adolescents aged 5-19 were overweight or obese in 2016. Overall about 13% of the world's adult population (11% of men & 15% of women) were obese in 2016.<sup>(6)</sup> According to National Family Health Survey (NFHS), the percentage of women who are obese increased from 15% in NFHS-3 to 20.7% in NFHS-4 and the percentage of men in NFHS-4 is 18.6% who are obese. In rural areas under nutrition is more prevalent whereas obesity is more than 3 times higher in urban areas. Obesity is higher for women than men.<sup>(7)</sup> So by considering the syndromic nature of medoroga and intensity of different disorders here an attempt is made to observe the aetiopathogenesis and possible correlation of Medoroga with modern day diseases for better understanding and to establish an appropriate modern disease to the concept of medoroga with the help of various clinical investigations.

## II. MATERIAL AND METHODS:

### Source of Data :

**Literary Source :** The details on literature of Medoroga was incorporated from the Ayurvedic classics.

**Clinical Source :** A minimum of 50 patients clinically diagnosed as Medoroga were selected based on physical signs and symptoms from OPD, IPD and camps conducted at Abhilashi Ayurvedic Hospital, Chailchowk, Mandi.

**Method of Collection of Data :** Data is from both male and female patients attending the OPD and IPD fulfilling clinical criteria for diagnosis of Medoroga was randomly selected irrespective of their socio economic, educational or religious status.

**a) Diagnostic criteria :** Patients were diagnosed clinically on the basis of complete history and physical examination.

**b) Inclusion criteria :** Patients with clinical features of Medoroga and Patients between ages of 18 to 60 years.

**c) Exclusion criteria :** Patients having age less than 18 and above 60 years, Female patient having Pregnancy and Obese patients having history of accidental injuries, major surgeries and long term use of medications.

### d) Subjective Parameters :

1. Chalasphika, stana, udara
2. Atipipasa
3. Atikshuda
4. Daurbalya
5. Daurgandhya
6. Alpavyavaya
7. Atinidra
8. Kshudrashwasa
9. Angagaurava
10. Alasya

### e) Objective Parameters :

1. Body weight.
2. Body mass index.

### f) Investigations :

- Lipid Profile : a). Cholesterol  
b). Low Density Lipids (LDL)
- c). High Density Lipids (HDL)
- d). Triglycerides
- Fasting Blood Sugar (FBS)  
Post Prandial Blood Sugar (PPBS)

## III. DISCUSSION:

The data obtained and recorded during the

process of observation is analyzed and interpretations were drawn in all its dimensions through the process of discussion. Discussion is the process where in different aspects of the problem is analyzed, thus facilitating conclusion. The findings recorded in the study of 50 patients of Medoroga are discussed.

### Discussion on subjective parameters and average Body Mass Index:

**1. Chalasphika:** Among 50 patients, 28 patients were having chalasphika, out of that 02 patients were belongs to grade 1 i.e. 7.14% with average BMI 29.6, 3 patients belongs to grade 2 i.e. 10.71% with average BMI 32.8, 3 patients belongs to grade 3 i.e. 10.71% with average BMI 34.6 and 20 patients belongs to grade 4 i.e. 71.42% with average BMI 36.1.

**2. Chalaudara:** Among 50 patients, 50 patients were having chalaudara, out of that 11 patients were belongs to grade 1 i.e. 22% with average BMI 29.05, 11 patients belongs to grade 2 i.e. 22% with average BMI 32.42, 4 patients belongs to grade 3 i.e. 8% with average BMI 34. and 24 patients belongs to grade 4 i.e. 48% with average BMI 36.28.

**3. Chalastana:** Among 50 patients, 28 patients were having chalastana, out of that 03 patients were belong to grade 1 i.e. 10.71% with average BMI 29.6, 3 patients belong to grade 2 i.e. 10.71% with average BMI 32.8, 2 patients belong to grade 3 i.e. 7.14% with average BMI 34.6 and 20 patients belong to grade 4 i.e. 71.42% with average BMI 36.1.

Vitiated medhadhatu accumulate in Udara, sphika and stana as these are the seat of medodhatu.

**4. Atipipasa:** Among 50 patients, 42 patients were having atipipasa, out of that 08 patients were belong to grade 1 i.e. 19.04% with average BMI 29.65, 8 patients belong to grade 2 i.e. 19.04% with average BMI 31.82, 4 patients belong to grade 3 i.e. 9.52% with average BMI 34.38 and 22 patients belong to grade 4 i.e. 52.38% with average BMI 36.39.

Because of increased amount of Agni in koshtha and vitiation of vata due to obstruction of meda, results into atipipasa.

**5. Atikshuda:** Among 50 patients, 28 patients were having atikshudha, out of that 05 patients were belong to grade 1 i.e. 17.85% with average BMI 29.45, 8 patients belong to grade 2 i.e. 28.57% with average BMI 31.83, 03 patients belong to grade 3 i.e. 10.71% with average BMI 34.82 and 12 patients belong to grade 4 i.e. 42.85% with average

BMI 36.28. Because of increased amount of Agni in koshtha and vitiation of vata due to obstruction of meda, results into atikshuda.

**6. Svedadhikya:** Among 50 patients, 44 patients were having svedadhikya, out of that 09 patients were belong to grade 1 i.e. 20.45% with average BMI 29.05, 7 patients belong to grade 2 i.e. 15.90% with average BMI 32.3, 5 patients belong to grade 3 i.e. 11.36% with average BMI 34.21 and 23 patients belong to grade 4 i.e. 52.27% with average BMI 35.31. Sweda is mala of medadhatu. As medadhatu increases sweda is also increases. Because of increased amount of Agni in koshtha and vitiation of vata due to obstruction of meda, results into atikshuda.

**7. Daurbalya:** Among 50 patients, 32 patients were having daurbalya, out of that 03 patients were belong to grade 1 i.e. 9.37% with average BMI 32, 7 patients belong to grade 2 i.e. 21.87% with average BMI 32.76, 02 patients belong to grade 3 i.e. 6.25% with average BMI 34.02 and 20 patients belong to grade 4 i.e. 62.5% with average BMI 36.26. Daurbalya may be due to the improper formation of all dhatus.

**8. Daurgandhya :** Among 50 patients, 33 patients were having daurgandhya, out of that 06 patients were belong to grade 1 i.e. 18.18% with average BMI 29.05, 04 patients belong to grade 2 i.e. 12.12% with average BMI 32.3, 4 patients belong to grade 3 i.e. 12.12% with average BMI 34.21 and 19 patients belong to grade 4 i.e. 57.57% with average BMI 35.31. Daurgandhya is one among the medodhatuvrudhilakshana.

**Cholesterol and BMI value :** Among 50 patients, 30 patients with features Chalasphika, chalaudara, chalastana, and Svedadhikya, Daurbalya, Daurgandhya, Atipipasa and Atikshuda were having high cholesterol i.e. 30% with BMI >30, 5 patients were having high cholesterol i.e. 5% with BMI <30 and 15 patients were having normal cholesterol i.e. 15% with BMI 25-30.

**LDL and BMI value :** Among 50 patients, 19 patients with features Chalasphika, chalaudara, chalastana, and Svedadhikya, Daurbalya, Daurgandhya, Atipipasa and Atikshuda were having high LDL i.e. 19% with BMI >30, 7 patients were having high LDL i.e. 7% with BMI <30 and 24 patients were having normal LDL i.e. 24% with BMI 25-40.

**HDL and BMI value :** Among 23 female patients, 2 patients with features Chalasphika, chalaudara, chalastana, and Svedadhikya, Daurbalya, Daurgandhya, Atipipasa and Atikshuda were having less HDL i.e. 2% with BMI <30, 15 patients

were having less HDL i.e. 15% with BMI >30 and 6 patients were having normal HDL i.e. 6% with BMI 25-40. Among 27 male patients, 6 patients with features Chalasphika, chalaudara, chalastana, and Svedadhikya, Daurbalya, Daurgandhya, Atipipasa and Atikshuda were having less HDL i.e. 6% with BMI <30, 13 patients were having less HDL i.e. 13% with BMI >30 and 8 patients were having normal HDL i.e. 8% with BMI 25-40.

**Triglycerides and BMI value :** Among 50 patients, 21 patients with features Chalasphika, chalaudara, chalastana, and Svedadhikya, Daurbalya, Daurgandhya, Atipipasa and Atikshuda were having high triglycerides i.e. 21% with BMI >30, 9 patients were having high triglycerides i.e. 9% with BMI 25-30 and 20 patients were having normal triglycerides i.e. 20% with BMI 25-40.

**FBS and BMI value :** Among 50 patients, 26 patients with features Chalasphika, chalaudara, chalastana, and Svedadhikya, Daurbalya, Daurgandhya, Atipipasa and Atikshuda were having high FBS i.e. 26% with BMI >30, 3 patients were having high FBS i.e. 3% with BMI 25-30 and 21 patients were having normal FBS i.e. 20% with BMI 25-40.

**PPBS and BMI value :** Among 50 patients, 26 patients with features Chalasphika, chalaudara, chalastana, and Svedadhikya, Daurbalya, Daurgandhya, Atipipasa and Atikshuda were having high PPBS i.e. 26% with BMI >30, 3 patients were having high PPBS i.e. 3% with BMI 25-30 and 21 patients were having normal PPBS i.e. 20% with BMI 25-40.

**BMI (body mass index)-** Among 50 patients, 11 patients with features Chalasphika, chalaudara, chalastana, and Svedadhikya, Daurbalya, Daurgandhya, Atipipasa and Atikshuda were having BMI 25-30 i.e. 11%, 14 patients were having BMI 30-35 i.e. 11% and 25 patients were having BMI 35-40 i.e. 11%

#### IV. CONCLUSION:

The following conclusions can be drawn on the present study.

- Medoroga is a disorder of metabolism described by Madhavaacharya in Medoroganidana and by Charaka in AshtaninditiyaAdhyaya.
- Medoroga iskaphapradhana and medo-pradoshajavyadhi.
- Medoroga is common in people with profession such as engineers, businessmen, shopkeepers, housewives etc. due to not following proper diet and not doing physical

activity. Incidence of the disease is almost same in both male and female.

- The people having high socioeconomic status are more prone to Medoroga. At present it is increasing day by day due to sedentary life style and improper food habits, which in turn resulting into many serious systemic complications like diabetes, atherosclerosis etc. Thus, one has to follow specific diet, exercise, special medicaments. So the observations of the present study are as :
- Among 50 patients, 30 patients were having high cholesterol i.e. 30% with BMI >30, 5 patients were having high cholesterol i.e. 5% with BMI <30 and 15 patients were having normal cholesterol i.e. 15% with BMI 25-30.
- Among 50 patients, 19 patients were having high LDL i.e. 19% with BMI >30, 7 patients were having high LDL i.e. 7% with BMI <30 and 24 patients were having normal LDL i.e. 24% with BMI 25-40.
- Among 23 female patients, 2 patients were having less HDL i.e. 2% with BMI <30, 15 patients were having less HDL i.e. 15% with BMI >30 and 6 patients were having normal HDL i.e. 6% with BMI 25-40.
- Among 27 male patients, 6 patients were having less HDL i.e. 6% with BMI <30, 13 patients were having less HDL i.e. 13% with BMI >30 and 8 patients were having normal HDL i.e. 8% with BMI 25-40.
- Among 50 patients, 21 patients were having high triglycerides i.e. 21% with BMI >30, 9 patients were having high triglycerides i.e. 9% with BMI 25-30 and 20 patients were having normal triglycerides i.e. 20% with BMI 25-40.
- Among 50 patients, 26 patients were having high FBS i.e. 26% with BMI >30, 3 patients were having high FBS i.e. 3% with BMI 25-30 and 21 patients were having normal FBS i.e. 20% with BMI 25-40.
- Among 50 patients, 26 patients were having high PPBS i.e. 26% with BMI >30, 3 patients were having high PPBS i.e. 3% with BMI 25-30 and 21 patients were having normal PPBS i.e. 20% with BMI 25-40.
- Among 50 patients, 11 patients were having BMI 25-30 i.e. 11%, 14 patients were having BMI 30-35 i.e. 11% and 25 patients were having BMI 35-40 i.e. 11%.
- As per WHO standard 11 patients were overweight. 14 patients belong to grade 1 obesity and 25 patients belong to grade 2 obesity.

- Level, LDL, Triglycerides, FBS and PPBS were found raised in the clinically diagnosed cases of Medoroga and HDL levels were found low in the clinically diagnosed cases of Medoroga.
- The reports of some patients with clinical features of medoroga i.e. Chalasphika, chalaudara, chalastana, and Svedadhikya, Daurbalya, Daurgandhya, Atipipasa and Atikshuda shows raised levels of lipids i.e obesity with Dyslipidemia.
- The reports of some patients with clinical features of medoroga i.e. Chalasphika, chalaudara, chalastana, and Svedadhikya, Daurbalya, Daurgandhya, Atipipasa and Atikshuda shows raised levels of FBS and PPBS i.e. obesity with Diabetes Mellitus.
- The reports of some patients with clinical features of medoroga i.e. Chalasphika, chalaudara, chalastana, and Svedadhikya, Daurbalya, Daurgandhya, Atipipasa and Atikshuda shows raised levels of FBS and PPBS and lipids i.e obesity with Dyslipidemia and Diabetes Mellitus both.
- So in total from the above observations of 50 patients it is possible to correlate the concept of medoroga with Metabolic syndrome with centre obesity.

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