

AN AYURVEDIC VIEW TO METABOLIC SYNDROME

Mehta Sahil¹ and Sharma Mukesh Kumar*²

¹MD Scholar, PG Deptt. of Rachana Sharir, Ch. Brahm Prakash Ayurved Charak Sansthan,
New Delhi.

²Associate Professor, PG Department of Rachana Sharir, Ch. Brahm Prakash Ayurved
Charak Sansthan.

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***Corresponding Author**

**Dr. Sharma Mukesh
Kumar**

Associate Professor, PG
Department of Rachana
Sharir, Ch. Brahm Prakash
Ayurved Charak Sansthan.

ABSTRACT

Metabolic syndrome is a co-occurrence of several known cardiovascular risk factors, including insulin resistance, obesity, atherosclerosis, dyslipidemia and hypertension. A large number of people all over the world are suffering from metabolic disorders. Metabolic diseases have become a burning topic now-a-days because it is very rapidly spreading all over the world. It has turned out to be a global epidemic because of its premature morbidity and mortality. In view of ayurveda, metabolic syndrome and its cluster of pathologies are a result of medovaha sroto dushti. These disorders can be prevented and controlled by various ayurvedic concepts such as Dincharya (Day life activities), Ritucharya (seasonal activities), Pathya-Apathya (Do's and Don't), Achara Rasayana (Code of conduct) and Vajikarana (Aphrodisiac medicine). Lifestyle modifications mentioned in ayurveda play a vital role in preventing metabolic syndrome.

KEYWORDS: Metabolic Syndrome, Ayurveda, Medovaha Srotodushti.

INTRODUCTION

Metabolic syndrome is a risk factor that arises from insulin resistance along with abnormal adipose deposition and function. It may lead to various risk factors for coronary heart disease, diabetes, fatty liver etc. Formerly it was known as Syndrome X. In recent times it has gained much importance because of its multi factorial, multi-pathological nature. It's premature morbidity and mortality has been a major concern for the society. According to WHO, major components of metabolic syndrome include increased blood pressure, increased triglyceride

levels, increased blood glucose levels, central obesity and decreased high density lipoprotein.^[1] Major causes of metabolic syndrome includes sedentary lifestyle, unhealthy food habits. Obesity is one of the major contributing factor in developing metabolic syndrome. Complications in metabolic syndrome leads to cardiovascular problems such as Coronary Artery Disease (CAD). In ayurveda, metabolic syndrome can be correlated with diseases related to Medovaha Sroto Dushti, chiefly *Medoroga*, *Santarpanjanya vikara*, *Atisthoulya*, *Madhumeha*. To control and prevent metabolic syndrome, an ayurvedic approach and its study in terms of ayurvedic classics is necessary.

Definition of metabolic syndrome

By World Health Organization

- Diabetes or impaired fasting glycaemia or impaired glucose tolerance or insulin resistance (hyperinsulinaemic, euglycaemic clamp-glucose uptake in lowest 25%)
- Plus any two of the following:
 - Obesity: BMI > 30 or waist-to-hip ratio > 0.9 (male) or > 0.85 (female)
 - Dyslipidemia: triglycerides \geq 1.7 mmol/L or HDL cholesterol < 0.9 (male) or < 1.0 (female) mmol/L
 - Hypertension: blood pressure > 140/90 mm Hg Microalbuminuria: albumin excretion > 20 μ g/min

National Cholesterol Education Program's Adult Treatment Panel III, 2001^[2]

Any 3 of the following:

- Central obesity: waist circumference
MALE : > 102 cm
FEMALE : > 88 cm
- Hypertriglyceridaemia: triglycerides \geq 1.7 mmol/L HDL cholesterol: < 1.0 mmol/L (male), < 1.3 mmol/L (female)
- Hypertension: blood pressure \geq 135/85 mm Hg or medication Fasting plasma glucose \geq 6.1 mmol/L

International Diabetes Federation, 2005^[3]

- Waist circumference : MALE \geq 94 cm and FEMALE \geq 80 cm
- Plus any two of the following:
- Triglycerides more than 1.7 mmol/L
 - HDL cholesterol : MALES < 1.03 mmol/L and FEMALES < 1.29 mmol/L in, or specific treatment for this lipid abnormality
 - Raised blood pressure: systolic blood pressure \geq 130mmHg or diastolic blood pressure \geq 85 mmHg

Causes of Metabolic Syndrome

| Ayurvedic Literature | Modern Literature ^[4] |
|--|--|
| <ul style="list-style-type: none"> • Snigdha, Guru, Pichhila Ahara (oily, heavy, junk food items) • Madyapana (Alcohol Intake) • Atiasana (Laziness) • Avyayama (No physical exercise) | <ul style="list-style-type: none"> • High calories food intake • Alcohol intake • Sedentary lifestyle • Overweight • Stress • Ageing |

Stages of Metabolic Syndrome^[5]

| Stages | Modern | Ayurvedic |
|---------------|-------------------------------|-------------------------------------|
| Initial Stage | Primary Stages of HTN, DM | Medovaha Sroto Dushti |
| Middle Stage | DM Type 2, HTN Dyslipidemia | Vyadhi Sankara |
| Later Stage | Complications of DM, HTN, CAD | Updrava of Madhumeha, Sthoulya etc. |

Medovaha Sroto Dushti Lakshan^[6]

The disease due to vitiated meda shows - premonitory signs & symptoms of prameha and ashta nindita purusha.

Concept of Vyadhi Sankara^[7]

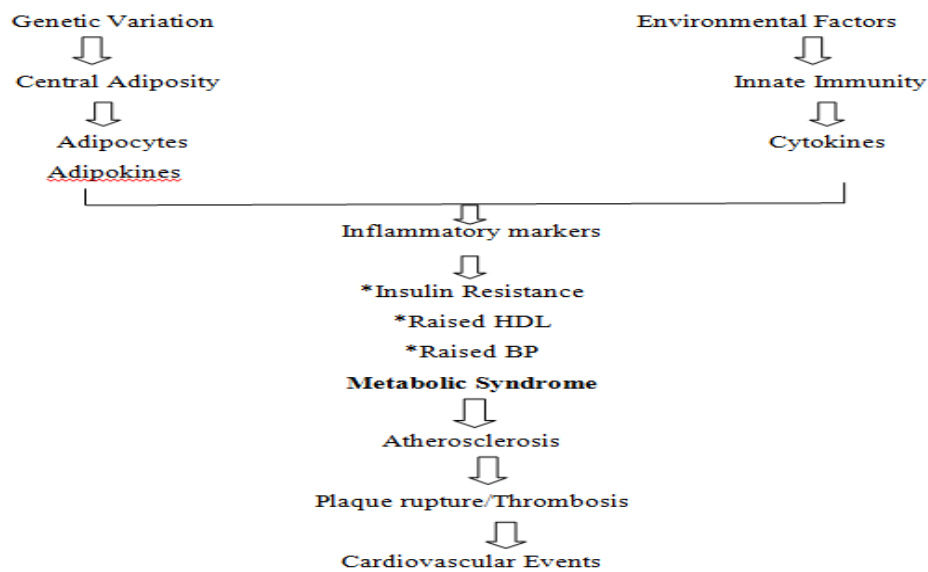
Vyadhi Sankara can be understood as group of two or more diseases and is caused due to improper treatment and one disease causing another. It is most difficult to treat.

NOTE: It is very important to start the treatment at initial stage in order to stop the disease process. Vyadhi Sankara is achieved when improper treatment is done at initial stage of the disease.

Samprapti Ghatak of Medo vikara (Metabolic Syndrome)^[8]

- Nidana - Snigdha, guru, pichhila ahara, Madyapana, Atiasana, Avyayama
- Dosha - Tridosha
- Dushya - Rasa, Rakta, Mamsa, Meda, Majja, Shukra, Oja
- Srotas - Rasavaha, Mamsavaha, Medovaha
- Sthan Samshraya - Amashya
- Swabhava - Chirkari
- Sadhya-asadhyata - Krichhra Sadhya Vyadhi.

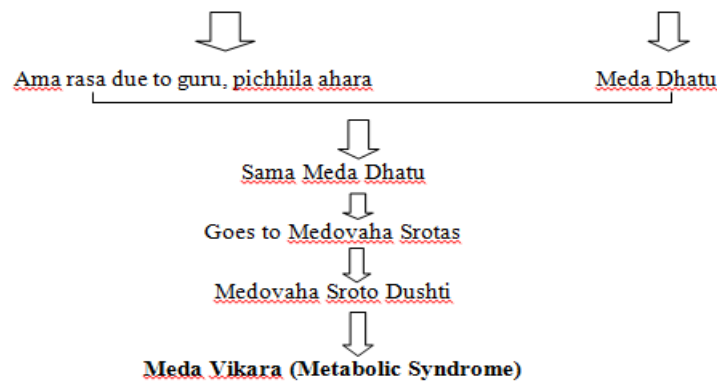
Pathophysiology of Metabolic Syndrome^[9]



Samprapti^[10]

One of the major factor causing hindrance in formation of meda dhatu is Dhatvagni mandya (Medo Dhatwagni).

Disturbance in Meda Dhatu formation due to Medo dhatwagni mandya.



Ayurvedic management of Metabolic syndrome

- Samshodhana
- Mridu Virechana
- Shodhana Vasti
- Ruksha udvartana
- Vamana
- Samshamana - Eg. Medohara Guggulu, Triphla Guggulu
- Yoga to deal with physicial inactivity

- Deepan and pachana drugs for proper metabolism - Eg. Chitrakadi Vati, Trikatu Churna
- Immuno-modulators - Guduchi, Amalaki, Haridra, Shilajeet
- Lifestyle Measures
 - Dincharya, Ritucharya
 - Achara Rasayan (Good code of conduct)
 - Concept of pathya-apathya.

CONCLUSION

Metabolic syndrome is a dreadful condition and major concern for developed countries because of sedentary life style and poor food habits (junk food) which are the main causes of metabolic syndrome. It can be prevented with the help of lifestyle modifications mentioned in ayurvedic texts.

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