Metabolic syndrome w.s.r. to Ayurveda Medicine- A Critical Review

Dr. Sakshi Bakshi*1

1 Assistant Professor, Department of Roga Nidan Evum Vikruti Vigyan, IAMC & RC, Greater Noida, U.P.

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 srotodoshti, 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'ts), 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 Srotodoshti

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.
Major causes of metabolic syndrome include sedentary lifestyle, unhealthy food habits. Obesity is one of the major contributing factors in developing metabolic syndrome. Complications in metabolic syndrome lead 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.

Table 1: Definition of metabolic syndrome

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes or impaired fasting glycaemia or impaired glucose tolerance or insulin resistance (hyperinsulinaemic, euglycaemic clamp-glucose uptake in lowest 25%)</td>
<td>Central obesity: waist circumference&lt;br&gt;MALE : &gt; 102 cm&lt;br&gt;FEMALE : &gt; 88 cm</td>
<td>Waist circumference :&lt;br&gt;MALE ≥ 94 cm and FEMALE ≥ 80 cm</td>
</tr>
<tr>
<td>● Plus any two of the following:</td>
<td>● Hypertriglyceridaemia: triglycerides ≥ 1.7 mmol/L HDL cholesterol: &lt; 1.0 mmol/L (male), &lt; 1.3 mmol/L (female)</td>
<td>Triglycerides more than 1.7 mmol/L</td>
</tr>
</tbody>
</table>
(male) or > 0.85 (female)

- Dyslipidemia: triglycerides ≥ 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 μg/min

Hypertension: blood pressure ≥ 135/85 mm Hg or medication
Fasting plasma glucose ≥ 6.1 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 ≥ 130mmHg or diastolic blood pressure ≥ 85 mmHg

<table>
<thead>
<tr>
<th>Table 2: Causes of Metabolic Syndrome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ayurvedic Literature</strong></td>
</tr>
<tr>
<td><em>Snigdha, Guru, Pichhila Ahara</em></td>
</tr>
</tbody>
</table>
Madyapana (Alcohol Intake)  Alcohol intake

Atiasana (Laziness)  Sedentary lifestyle

Avyayama (No physical exercise)  Overweight

Stress

Ageing

Table 3: Stages of Metabolic Syndrome [5]

<table>
<thead>
<tr>
<th>Stages</th>
<th>Modern</th>
<th>Ayurvedic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Stage</td>
<td>Primary Stages of Hypertension, Diabetes Mellitus</td>
<td>Medovaha Sroto Dushti</td>
</tr>
<tr>
<td>Middle Stage</td>
<td>Diabetes Mellitus Type 2, Hypertension,Dyslipidemia</td>
<td>Vyadhi Sankara</td>
</tr>
<tr>
<td>Later Stage</td>
<td>Complications of Diabetes Mellitus,Hypertension, Coronary Artery Disease</td>
<td>Updrava of Madhumeha, Sthoulya etc.</td>
</tr>
</tbody>
</table>

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** - Krichra Sadhya Vyadhi

Figure 1: Pathophysiology of Metabolic Syndrome \(^{[9]}\)
Inflammatory markers

* Insulin Resistance
* Raised HDL
* Raised BP

**Metabolic Syndrome**

Atherosclerosis

Plaque rupture/Thrombosis

Cardiovascular Events

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

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.

References

7. Sharma R.K, editor (1st ed.). Charaka Samhita of Agnivesh, Nidana Sthana Prameha Nidana: Chapter 4, Verse 15, Page 650

