



CONCEPTUAL STUDY ON METABOLIC SYNDROME IN AYURVEDA

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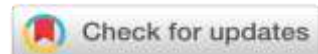
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ABSTRACT

Metabolic syndrome is a multifactorial disease frequently associated with a cluster of pathology, including obesity, impaired glucose tolerance and insulin resistance, collectively referred to as metabolic syndrome. Metabolic syndrome refers to the co-occurrence of several known cardiovascular risk factors, including insulin resistance, obesity, atherogenic dyslipidemia, etc. Acc. to the NCEP ATP III definition, metabolic syndrome is present if three or more of the following five criteria MET, waist circumference over 40 inches or 35 inches (woman), BP >130/85 mmHg, fasting TG>150mg/dl, FHDL < 40mg/dL(men) or <50mg/dl(women), FBS>100mg/dl. It is a critical feature of hyperglycemia/insulin resistance, visceral obesity, atherogenic dyslipidemia, etc. According to Ayurveda, bala(strength), Arogya(health), Ayu(longevity), and prana(vitality) are based on Agni. If the functions of Agni are proper, then it leads to Arogya(health), and due to the malfunction of Agni, Ama is formed, which leads to rasa dhatu dusti. The Ayurvedic concept of “Agni, Ama and Santarpanjanya Vyadhi, etc.” and its correlation with metabolic syndrome and their treatment are discussed in this context.

Keywords: Metabolic syndrome, Agni, Santarpanaja Vyadhi, Ama

INTRODUCTION

Metabolic syndrome (also known as insulin resistance syndrome, Reaven syndrome, Dysmetabolic syndrome, and syndrome X) is a proinflammatory, prothrombin state characterised by a cluster of clinical findings and laboratory abnormalities.

Clinical findings include obesity (central, abnormal, or visceral), increased sympathetic nervous system activity and HTN. Laboratory abnormalities include hyperglycaemia, Dyslipidaemia (high TGs, low HDL), glucose intolerance, and insulin resistance (the common etiologic factor and hyperinsulinemia). The prevalence rate of metabolic syndrome in India is 30%, and the risk of it increases with age.

According to Ayurveda, the reason behind any disease is a malfunction of Agni. The proper function of Agni resulting in health and weak action of Agni leads to improper digestion of food referred to as Ama. Ama is an umbrella term for all sticky, slimy, aggravating, and toxic substances responsible for an array of diseases, so the primary culprit behind Ama production is the impairment of Agni. Thus, a vicious cycle of impaired Agni and the production of Ama is established. Therefore, understanding the concept of Agni and Ama is inevitable. Ama causes srothavrodha, and the formation of Dushita meda dhatu leads to santarpnajanya vyadhi (including diabetes, obesity, etc).

No completely effective and safe treatment for metabolic syndrome has been found in modern medical science. Prolonged use of such medication sometimes results in undesired or hazardous effects. In this scenario, the whole world is looking towards the Ayurvedic approach to treatment and preventive health care for a better result.

MATERIAL AND METHODS-

Ayurveda classics, modern medicine textbooks, relevant published research articles, and internet sources related to this topic have been used in the present research work.

The modern aspect of metabolic syndrome-

DEFINITION—Metabolic syndrome is a multifactorial disease frequently associated with a cluster of pathologies, including obesity, impaired glucose tolerance, and insulin resistance.

CAUSES – The following are the causes of metabolic syndrome.

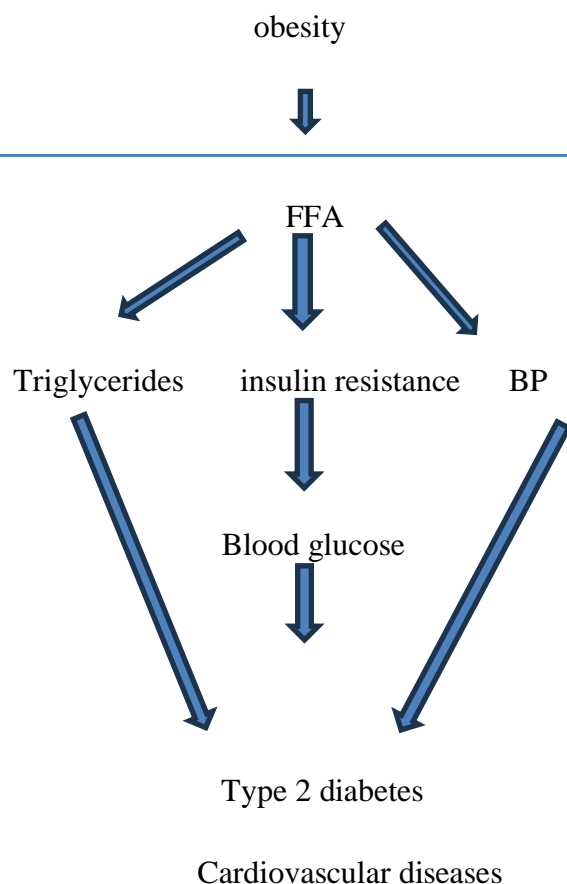
- Stress
- Overweight
- Sedentary lifestyle
- Aging
- Diabetes mellitus Type 2
- Alcohol intake
- High calories food intake

CLINICAL FEATURES –

ATP III identified CVD as the primary clinical outcome of metabolic syndrome. Most people with metabolic syndrome have insulin resistance, which leads to type II diabetes, which increases the risk of CVD. Other clinical features are.

- PCOD
- Fatty liver
- Cholesterol gallstones
- Asthma
- Sleep disturbances.
- Some forms of cancer

Role of obesity in metabolic syndrome



Other contributing factors are.

- Advancing age
- Proinflammatory state has been implicated directly in the causation of insulin resistance and atherogenesis.
- Several endocrine factors have been linked to abnormalities in body fat distribution and, hence, indirectly, to metabolic syndrome.

DIAGNOSTIC CRITERIA OF METABOLIC SYNDROME

ATP III clinical identification of metabolic syndrome

| RISK FACTOR | DEFINING LEVEL |
|--|---|
| Abdominal obesity, given as waist circumference. Men Women | >102 cm (>40 inch) >88 cm (>35 inch) |
| Triglycerides | >150 mg/dl |
| HDL cholesterol Men Women | <40mg/dl <50 mg/dl |
| Blood pressure | >130/85 mmHg |
| Fasting glucose | >110 mg/dl |

WHO criteria for metabolic syndrome

Insulin resistance is identified by one of the following

- Type II diabetes.
- Impaired fasting glucose
- Impaired glucose tolerance

Plus any two of the following

- Antihypertensive medication and high blood pressure (>140mmHg systolic or > 90 mmHg diastolic)
- Plasma triglyceride >150 mg/dl(1.7mmol/l)
- HDL cholesterol

METABOLISM IN AYURVEDA –

‘Agni’ literally means fire. In Ayurveda, Agni denotes all factors responsible for digestion and metabolism. Agni corresponds to various factors directly or indirectly involved in digestion and metabolism. Agni is a crucial factor in life. Diminution of Agni is life-threatening. Normal functioning of Agni leads to longevity. Sustenance of life, complexion, strength, health, nourishment, luster, Ojas, Teja (energy) and prana (life energy) depends on the status of Agni in the body. The state of equilibrium of Agni is an essential component of health. All diseases are caused due to impaired Agni. Proper metabolism is the key to good health. The body's acceptance of macro and micronutrients depends on Agni's status. It is a crucial factor for nutrition. Apart from gross digestion and metabolism, Agni is responsible for bio-energetic and biochemical transformations in the body.¹

In Ayurveda, three types of Agnies help digestion and metabolism at their level, namely jatharagni, bhutagni and dhatwagni.

1. Jatharagni (present in the gastrointestinal tract). This includes factors responsible for digestion and metabolism at the gastrointestinal tract level. This Agni is responsible for all amylolytic, proteolytic and lipolytic enzymes secreted by various exocrine glands in the gut, which cause digestion, i.e., breaking down different macromolecules into their constituent units.²

2. Bhutagni has five fundamental elements corresponding to respective Mahabhutas. Those are: parthiva (prithvi mahabhuta dominant), apya (jala mahabhuta dominant), tejasa (teja or Agni mahabhuta dominant), vayavya (vayu mahabhuta dominant) and

nabhasa (akasha mahabhuta dominant). They act on the corresponding substrate based on mahabhuta composition to make them homologous to body constituents. This includes factors responsible for digestion and metabolism at the organic level. Five types of bhutagni act after jatharagni, but before dhatwagni on the food and its metabolites. This represents the primary metabolism of various food components and minerals at the hepatic levels like carbohydrate, protein and fat metabolism. This Agni absorbs nutrients in the liver, which is essential to metabolism. Several processes, such as trans-amination, de-amination, beta-oxidation of fatty acids, glycolysis, etc., occur in the liver. Therefore, the overall intermediary metabolism (involving fats, carbohydrates, and proteins) can be understood as the functioning of the bhutagni.³

3. Dhatwagni is present in the seven body tissue components (rasa dhatu, rakta dhatu, mamsa dhatu, meda dhatu, Majja dhatu, Asthi dhatu and shukra dhatu) and is responsible for transformation of one dhatu into another namely rasagni, raktagni, mamsagni, medo-agni, Majja-agni, Asthi agni and shukra agni. This includes factors accountable for digestion and metabolism at dhatu (various tissues). This includes the endocrine and exocrine secretions, neurotransmitters, and other chemical characteristics. The small portions of Agni are present in each dhatu. The increase or decrease of these Agni leads to depletion or overproduction of dhatu. [A.H. Sutra Sthana 11/24] This suggests the negative feedback and autoregulatory mechanism of Agni. All hormones (such as insulin, growth hormone, thyroid hormones, testosterone, etc.) that promote the transportation of various nutrients into the cells, along with the enzymes participating in Krebs's cycle, are to be included under the term dhatwagni. All three classes with thirteen Agni are interconnected and interdependent. The energy mechanism takes place in every body cell. This shows Agni is present in every cell. Mitochondria are the powerhouse of the cell. The release of adenosine triphosphate (ATP) to give energy is an example of Agni working at the cellular level.⁴ According to Ayurveda, kosthagni (pachaka pitta) is the leader of all factors concerned with digestion and metabolism in the body of all living beings. The

ingested food is first metabolised by Jatharagni and converted into annarasa (Sara bhaga) (Jatharagni paka-gastrointestinal digestion). After that, ahara rasa nourished the Rasa, Rakta, Mamas, Medas, Asthi, Majja, Shukra, Ojas and the five indriya dravyas, all known as dhatu prasadakas as also such parts of the body as the joints and related structures, such as pichcha etc. which bind the the joints. Nutrient substances, i.e., the

Dhatu, undergo paka under the influence of their ushma (Agni) and are purveyed to the dhatus through their own(specific) Srotamsi. The seven Dhatu that support the body undergo two kinds of paka- prasada and kitta, each under the influence of its Agni. From Rasa is formed Rakta, from Rakta, Mamsa is formed, from Masa, Meda; from Medas, Asthi; from Asthi, Majja; from Majja, Shukra and from Shukra, Garbha.⁵

| The species of dhatwagni | Raw materials are nutrient homologous to dhatus from the food substrate. | Prasadapaka | Kittapaka |
|--------------------------|--|-----------------------------|--|
| Rasagni | Annarasa | Rasa- dhatu | Sleshma |
| Raktagni | Nutrient homologous of rakta dhatu raw materials in the substrate, in rasa dhatu | Poshaka asthayi rakta dhatu | Pitta |
| Mamsagni | Do of mamsa dhatu | Do mamsa dhatu | Karnamala, akshimala, nasikamala, asayamala, lomakupamala, prajananamala |
| Medoagni | Do of masa dhatu | Do medo dhatu | Sweda |
| Asthyagni | Do of asthi dhatu | Do asthi dhatu | Kesha, shamashru, Loma, nakha |
| Majjagni | Do of majja dhatu | Do majja dhatu | Akshi- Sneha, vit- Sneha, Twak Sneha |
| Shukragni | Do of shukra dhatu | Do shukra dhatu | Ojas |

So we can said that impaired function of Agni produces many diseases like life style disorders which also include metabolic syndrome (santarpanjanya-vyadhi, Medoroga, Prameha, hypothyroidism etc)

METABOLIC SYNDROME IN AYURVEDA – स्वस्थानस्थस्य कायाग्रेरंशा धातुषु संश्रिताः । तेषां सादातिदीप्तिभ्यां धातुवृद्धिक्षयोद्भवः ॥ ३४॥

पूर्वी धातुः परं कुर्याद् वृद्धः क्षीणश्च तद्विधम् ॥ (A.H.SU.11/34)

A decrease or increase of the dhatus occurs according to the aspects of pachaka pitta present in them, Tikshna or Manda, respectively. As the flame of a forest fire tends to increase or decrease, according to the quantity (more or less, as the case may be) of indhana (fuel)

available in its proximity, so is the case with the dhatu-parampara. Dravyas are either tulya(homologous) or vishishta (heterologous) to the dhatus, which cause an increase or decrease, respectively, of the Dhatus due to properties inherited by and potentiality present in them as in the case of a seed. Homologous properties of dravyas cause a rapid increase of identical or similar properties in the Dhatus, whereas dravyas possessing heterologous qualities make for a rapid decrease in the Dhatus. Moieties or aspects of kayagni, later while being in its place, are contributed to and contribute to all the dhatus. A decrease in kayagni and its contribution to the Dhatus makes for an increase in the latter, while an increase makes for a reduction of them.⁶

1] santarpanjanya vyadhi- Causative factor –

संतर्पयति यः स्निग्धैमधुरैगुरुपिच्छिलैः। चेष्टाद्वेषी
दिवास्वप्नशय्यासनसुखे रतः। रोगास्तस्योपजायन्ते
संतर्पणनिमित्तजाः ॥ (च.सू.28)

Excessive intake of snigdha, madura food, lack of exercise, and day sleeping habits are the causes of santarpanjanya vyadhi.

Santarpanjanya vyadhi ⁷ –

| Disease | According to modern | Status of agni | Treatment |
|-----------------------------------|--|--|--|
| Kustha | Obstinate skin disease | Mandagni | Vaman, Virechana, raktmokshana, basti, Nasya |
| Amapradosja | | Mandagni | |
| Prameha and Prameha pidika | Diabetes and diabetic carbuncles | Dhatwagnimandya | Kaphaja- Vamana Pittaja- Virechana |
| Kotha | Urticaria | Mandagni | Vaman, virechan, raktmokshana |
| Pandu | Anaemia | Dhatwagnimandya | Tikshna vamana, virechan |
| Aama jwara | Fever | Jatharagni | Langhan, pachana, Vaman, |
| Mutrakrcchra | Dysuria | | Vataja- niruha Vasti, upnaha sweda Pittaja- parisheka, upnaha sweda, basti, Virechana Kaphaja- Abhyanga, sweda, basti, Snehapana |
| Arocaka | Anorexia | Agnimandya | Vataja- basti Pittaja- Virechana Kaphaja- vamana Agantuja – hridyaanumula harshana |
| Klaibya | Erectile and sexual dysfunction | Dhatwagnimandya | Snehan, Swedana, Virechana, Asthapanana basti |
| Ati Sthaulya, Alasya, gurgatratra | Obesity, laziness, heaviness of the body | Initially agnimandya After teekshagni | Vaman, virechan, Niruha vasti |
| Shotha | | Agnimandya | Vataja- snehan, swedan, pradeha, parisheka, avaghana Pittaj- abhayang, mardana, Snehapana Kaphaja- parisheka, pralepa |

* Aptarpanjanya vikara-

देहाग्नि बलवणौजःशुक्रमांसपरिक्षयः । ज्वरो काज्ञानुबन्धश्च पारवंशूलमेरोचकः ॥ २७ ॥ - श्रोत्रदौर्बल्यसुन्मादः प्रलापो हृदयव्यथा । विण्मूत्रसंग्रहः शूलं जङ्घोरुन्तिकसंश्रयम् ॥ २८ ॥ पर्वास्थिसंधिभेदश्च ये चान्ये वातजा गदाः । ऊर्ध्ववातादयः सर्वे जायन्ते तेऽपतर्पणाव ॥⁸ -

| Disease | According to modern | Status of agni | Treatment |
|-------------------|--------------------------|----------------|---|
| Kasanubanda jwara | Fever | Agnimandya | Langhan, deepana pachana |
| Parsvashoola | Pain in chest and flanks | Vishmagni | Vatahar |
| Arochaka | Anorexia | Agnimandya | Vataja- basti Pittaja- virechana Kaphaja- vaman |

Santarpanaja vyadhi are
प्रमेहपीडिकाकोठकण्डूपाण्डवामयज्वरः॥कुष्ठअन्यामप्र
दोषाश्च मूत्रकृच्छमरोचकः | तन्द्रा
क्लैब्यमतिस्थोल्यामालस्यं गुरुगात्रता ॥ इन्द्रियस्रोतसां
लेपो बुद्धेर्मोहः प्रमीलकः | शोफाश्चैवंविधाश्चान्ये
शीघ्रमप्रतिकुर्वतः ॥ (च .सू 23/6,7)

| | | | |
|-----------------------|--|------------|---|
| Unmada | Psychosis | Vishamagni | Agantuja–hridayaanumula harshana Pittaja-snehan, swedan, virechana Kaphaja-snehan, Swedana, vaman Doshanusar niruha vasti and anuvasan vasti, shirovirechana |
| Pralapa | Delirium | Vishamagni | Vatashamak and praharsh |
| Hridvyatha | Pain in the cardiac region | Vishamagni | Vatashamak and praharsh |
| Vinmutrasanghaha | Retention of urine, faeces | Vishamagni | Vata anulomaka |
| Janghaurutrika shoola | Pain in calf, thigh, lumber region and finger and joints | Vishamagni | Vatahar, application of oil, vasti |

2] **Medoroga** – occurrence of medoroga due to dhatwagni mandya, so brief details are given below in table form⁹-

| Name of Agni | State of Agni | Disease acc. To Ayurveda | Disease acc. To Modern |
|--------------|---------------|---|---|
| Rasagni | Mandagni | Aruchi Jawar Pandu Klaibya Palitya | Anorexia Fever Anaemia Infertility Gray /white hairs |
| Raktagni | Mandagni | Kustha Raktapitta Vidrathi Gulma Vatarakta Kamla | Leprosy Epistaxis, haematuria Abscess Generous Gout Jaundice |
| Mamsagni | Mandagni | Arbuda Galaganda Gandamala | Tumour Goitre Goitre |
| Medoagni | Mandagni | Prameha Atisthaulya | Diabetes mellitus Obesity |
| Asthyagni | Mandagni | Asthivridhi | Various hormonal, genetic and tumorous pathologies like osteomyelitis |
| Majjagni | Mandagni | Brahma Murcha | Confusion, delirium Unconsciousness |
| Sukragni | Mandagni | Klaibya Apraharsh | Infertility Masculine dysfunction |

CLINICAL FEATURES¹⁰–

- Ayusho hrasa (reduced life span)
- Javaparodha (early ageing)
- Krichra vyavayata (erectile dysfunction)
- Daurbalyam(weakness)
- Daurgandhya (foul smelling)
- Swedabadha (excessive perspiration)
- Pipasatiyoga (polydipsia)
- Kshudhatimatra (polyphagia)

A brief discussion of some metabolic disorders

Prameha (Diabetes Mellitus)- Prameha means diabetes, which involves high levels of blood sugar, frequent urination, the presence of sugar in urine, etc. Ayurveda considered Prameha as Sadhya (curable), Yapya (paliabile) and Asadhya (incurable) depending upon the involvement of Dosha. Acharya Sushruta describes it depending on physical appearance as sahaja Prameha & Apathyanimittaja. Sahaja prameha mainly relates to bija dosha (a genetic disorder), while Apathyanimittaja is related to ageing and a disturbed

lifestyle. Common symptoms or clinical manifestations of diabetes are Krisa, Rauksha, Bahu Pipasa, Parisaranasila Sthula, Snigdha, Delaying the recovery of any injury, Urinal dysfunction, Disturbed appetite, Skin manifestation, etc.

HYPERTHYROIDISM AND HYPOTHYROIDISM –

In Ayurveda, Atyagni and Mandagni correspond to hyper or hypometabolism, respectively. Atyagni is reminiscent of an analogous condition, described in modern medicine as hypermetabolism, usually associated with hyperthyroidism.

नरे क्षीणकफे पित्तं कुपितं मारुतानुगम् । स्वोष्मणा पावकस्थाने बलमग्नेः प्रयच्छति ॥ तदा लब्धचलो देहे विरूक्ष सानिलो ऽनलः । परिभूय पच्यत्यन्नं तैक्ष्यादाशु मुहुर्मुहुः ॥ पक्त्वात्रं स ततो धातुञ्छणितादीन् पचत्यपि । ततो दौर्बल्य मातृकान्मृत्युं चोपनयेन्नरम् ॥ भुक्तेऽने लभते शान्तिं जीर्णमात्रे प्रताम्यति । वृश्वासदाहमुर्च्छाद्या व्याधयोत्यग्निसंभवाः ॥ (Charak Ch. 15/217-221)

Two important points emerge out of these references viz., (1) Pachakagni, which is located in an area between the Pakwashaya Amashaya, contributes parts of itself (ii) the moieties of Pachakagni present in the Dhatus, when hyper- active, leads to their wasting and if hypo-active, to their hypertrophy. The analogy of the forest fire and fuel is, it is evident, meant to stress the two points mentioned above. These points may be illustrated advantageously with the example of the hyper-and hypo-metabolism associated with the hyper and hypo-functioning of the thyroid gland.¹¹

Mandagni described in Ayurveda in which the dhatus (tissue elements) are stated to undergo vriddhi (increase, growth, or hypertrophy) is comparable to hypo-metabolism, usually associated with (a) hypothyroidism and (b) Simmonds disease.

According to Ayurveda, Hypothyroidism mainly occurs due to vitiation of Vata and Kapha Doshas. This vitiated Doshas derange the Jatharagni (digestive enzymes, etc.), ultimately leading to the production of Ama and, lastly, vitiates Medadhātu. This Ama blocks the channels (Srotorodha) in the body. Symptoms mainly occur due to the accumulation of Kapha and Medadhātu. Srotorodha, constipation and muscle pain,

loss of libido, amenorrhoea etc., are primarily seen due to vitiated Vatadosha by Avarana.

Simmond's disease is stated to be due to the failure of the thyrotropic function of the pituitary gland, resulting in insufficiency of thyroxin availability. It is seen not to involve the thyroid in any morbidity. The basal metabolic rate, in this condition, is seen to be very low. These examples illustrate the conditions described as Atyagni and Mandagni, which, according to Ayurveda, involve the Tikshnata and Mandata, respectively, of Kayagni (Pachakagni) and its amshas present in the Dhatus.¹²

TREATMENT - Physical activity in which moderate exercise is done for 30-45 minutes and 3-5 days/week. Sibutramine, rimonabant, orlistat, and olestra are drugs which are used. Weight loss lowers serum cholesterol and triglyceride levels, raises HDL cholesterol, lowers blood pressure, and reduces insulin resistance. Medication should be used for atherogenic dyslipidaemia, elevated blood pressure, prothrombotic, pro-inflammatory, and hyperglycemia. The metabolic syndrome should be treated through panchakarma -bio cleansing, depleting treatment and herbs are advised. Vamana, virechana, raktmokshana with vyayama, and langhana are included in panchakarma. It leads to detoxification of the body, Agnidepana, and Amapachana.

Drugs like Haritaki with Madhu, Triphala kwatha, Mustadi kwatha, and Vyosadhi sattu are used. Also, the use of Takrasritsa, Yavaamalaka churna, Bilwadi Panchamula with Madhu, Silajatu with Agnimantha Swarasa, vidanga, nagara, loha raja with Madhu, vyayama, prajagarana, madhudak, kodrava long with Panchakarma procedures gives beneficiary effect in metabolic syndrome¹³. Brief detail of Dhatwagni mandhyata with treatment is given below¹⁴.

| Dhatwagni | Pramukh Ausadha | Shodhana Chikitsa |
|-------------------|--|---|
| Rasagni mandya | Arogyavardhini vati Chandraprabha vati | Langhan |
| Raktagni mandya | Nimbamalaka churna | Virechan, raktmokshana |
| Mamsagni mandya | Vibhitaki churna, Nagabhasma Sarkara | Vaman, virechana |
| Medagni mandya | Shilajatu, triphala, agnimanta, shivagutika | Karshana, brihmana |
| Asthiagni mandya | Nirgundi moola churna, tiktaka ghrita, simhanada guggulu, sheer sarpi, tikta rasa aushadha | Panchakarma includes sarvanga abhyanga swedana, basti with panchatikta rasa siddha |
| Majja-agni mandya | Panchtiktaghrita guggulu, vidharadigh- rita, Madhur tikta anna | Shodhana include sarvanga abhyanga swedan and basti |
| Shukragni mandya | Mahabala ghrita, vanga bhasma, Piyush sagara rasa | Shodhana include vaman, virechana after that Uttara vasti |

DISCUSSION

In today's era, the condition Metabolic Syndrome is becoming common in young to middle-aged people. It is turning into a fatal condition, causing risk to life due to the development of cardiovascular diseases and other such conditions. Ayurveda, a traditional system of medicine, considers Metabolic Syndrome because of an imbalance in Doshas and Dhatus and impaired digestion. It may be concluded that Agni is a vital component that helps digest food and is responsible for metabolic activities. Agni transformed food into nutritional energy responsible for the body's physiological functioning. The term 'Jatharagni' stands for the several enzymes which participate in the digestion of the different components of food. Bhutagni turns all the consumed vijatiya Panchabhoutika dravya into Sajatiya Panchabhoutika Dravya, i.e., conversion of heterogeneous to homogeneous, and Dhatwagni refers to the metabolism of carbohydrate, protein, and fat at the tissue level.¹⁶ Dhatawagni mandya is the leading cause of root. In modern medicine, only symptomatic treatment is given. However, according to Ayurveda, it can be managed by following Dinacharya, Samana, and Shodhana chikitsa.

CONCLUSION

Metabolic syndrome can be well treated as a Santarpanjanya vikara in general and Medopradoshaja

vikara in particular. Treatment of Atisthoulya/Medoroga and Prameha, Hypothyroidism will be effective in the management of the metabolic syndrome. Lifestyle modification, including diet and physical exercise, plays a central role. Agni and Aam are two of the crucial concepts in Ayurveda Samhita. Ayurveda viewed Agni to be an essential entity of the human body that not only aids in digestion but is also responsible for many metabolic activities. Agni governs the metabolism of food into nutritional energy, which in turn regulates the regular physiological functioning of the body. The disturbance in Agni leads to Agni dushti, which produces Aam in the body. Aam is the root cause of all diseases. In modern science, Ama are free radicals that are intermediate byproducts of metabolism and can clog the microchannels of various physiological systems. If Vaidya can understand this Aamavastha well and give its drug, it will give miraculous results in metabolic syndrome.¹⁷

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