PREVENTION OF MADHUMEH AND ITS COMPLICATIONS THROUGH AYURVEDA

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ABSTRACT
Faulty dietary habits, sedentary life style and stressful conditions may lead to various metabolic disorders and diabetes is one of them. In Ayurveda, Madhumeh one of the types of Vataj prameh is compared to diabetes mellitus because of having similarities of diseases in respect to Etiopathogenesis, clinical features and prognosis. Prevalence of diabetes is increasing day by day throughout the world where India leads the highest numbers. Diabetes is responsible for approximately 90% of global death by disease. Type-2 DM is responsible for almost 90% of cases. The main causes of Madhumeha are lack of exercise, improper food habits, excessive intake of food having Snigdha and Guru guna and food which causes vitiation of Kapha dosha are the primal causes of disease. Microvascular complications of diabetes like retinopathy and nephropathy are comparatively lower in Indians. The prevalence of premature coronary artery disease is much higher in Indians compared to other ethnic groups. Diabetic retinopathy is the leading cause of vision loss in adults of working age (20-65yrs) in industrialized countries. Modern therapeutics has many limitations but Ayurvedic principles of management can help the patient to control blood glucose level and have better routine life. Ayurveda plays an important role in prevention of Type-2 DM. Up to 80% of type 2 diabetes is preventable by adopting a healthy diet and increasing physical activity. To prevent this disease and its complications it is necessary to follow principles of Ayurveda i.e. Nidanaparivarjan, Ashtahar Vidhivisheshayatan, Dincharya, Rutucharya, Sadavratta and practicing particular Asana and Yoga postures. KEYWORDS: Kapha, Madhumeha, Nidanaparivarjan, Sadavratta, Stress.

INTRODUCTION
Diabetes is one of the most common Non communicable diseases (NCD’s). It is a chronic metabolic disorder of impaired carbohydrate, fat and protein metabolism sharing the common underlying feature of hyperglycemia(9). The prevalence of diabetes is increasing rapidly day by day. Type-2 diabetes is more common and present about 90% of all diabetic cases. According to IDF (International Diabetic Federation) 2014, worldwide about 387 million people were suffering with diabetes. In India, WHO reports show that 32 million people had diabetes in the year 2000(1). According to WHO by the year 2030 India would have around 80 million diabetic patients and would contribute 20% of world’s diabetic population (2). Irregular dietary habits, sedentary life style and stressful conditions may lead to various disorders and diabetes mellitus is one of them. In Ayurveda clinical features, etiopathogenesis and prognosis of Madhumeha resembles with that of diabetes mellitus. Madhumeha comprises of two words; Madhu means sweetness/honey and Meh means excessive urination). The synonyms mentioned in Ayurvedic texts are Madhumeha, Ojomeha, Kshaudrameha. Madhumeha is one of the twenty Prameha. If these Prameha not cured properly then they might convert into Madhumeha and become incurable. Diabetes mellitus may leads to various long term complications like diabetic Retinopathy, Nephropathy, neuropathy etc. Hence prevention of Type-2 diabetes is a major issue now days. The main principles of Ayurveda i.e., Nidanaparivarjan and Diet (Pathya- Apathya), Ashtahar vidhivisheshayatan, Dincharya, Rutucharya, Sadavratta and practicing Asan and Yoga plays an important role in prevention and control of diseases from further complications. Early identifications of risk factors and appropriate interventions through Ayurveda could greatly help to prevent or at least delay the onset of diabetes and thus reduce the burden of non communicable diseases in India.

CONCEPTUAL PART
The marked increase in diabetic patients is attributed to rapid changes in lifestyle & economic progress of India. According to Acharya Charak vitiation of three Doshas causes 20 types of Prameha and also other innumerable disorders(3); Nidan (etiology), Dosh (innate pathogenic factors) and Dushya (substratum of pathogenesis) these three factors when combined together immediately and in strong state cause immediate manifestation of Prameh. In Madhumeha patient passes large quantity of urine which looks like Madhu (honey) and having Kshaya (astringent taste) and Madhur (sweet taste). The texture is Ruksha (dry), honey like color and the body attains sweetness. Acharya Sushruta has narrated Kshaudrameha in place of Madhumeha.

Aetiological Factors
All those etiological factors of Prameh mentioned in our Ayurvedic literature are also the causative factors of Madhumeh as it is one of the varieties of Prameha. Lack of exercise and consumption of food that increase Kapha, Meda and Mootra are major causative factors of the disease. These are the sedentary habits and increased consumption of sweets and fats in daily diet. Excessive intake of food having Ushna, Snigdha and Guru guna,
excessive quantity and prolonged use of new grains, use of legumes like black gram, sesame paste, rice cooked with milk, sugarcane products, fresh wine are the main causative dietary factors of Prameha according to Acharya Charak. Other causes are use of curds, flesh of animals of domestic, aquatic or of marshy places, milk and all that factors which increase Kapha in the body (4). Indulgence in sitting on soft cushion for long periods of time, avoiding physical activities sleeping for long hours, abstinence from cleanliness, under nutrition during important period of growth and development during fetal life, infancy and childhood all these factors are contributive to the causation of disease. Stress also plays important role in causation of the disease. The biochemical changes induced by various stress responses disturbs the homeostatic mechanisms of body and has damaging effects on various parameters, blood glucose is one of them. Ayurveda has specially emphasized the role of psychological etiological factors i.e., Krodha (anger) in Pittaj prameha and Shoka (grief), Bhaya (Fear), Udvega (Anxiety) and Chinta (Worry) in Vatika prameha (4).

Pathogenesis

According to classic Ayurvedic literature, all types of Prameha start with the derangement of Kapha that spreads throughout the body and mixes with fat (Mada). Mada is having properties similar to that of Kapha. Kapha mixed with fat passes into the systemic system thereby interfering with normal urine excretion(3). Vitiated Pitta, Vata and other body fluids (Malas) also involve in this blockade. This blockade is believed to be the cause of frequent urination observed in diabetes. Prameha left untreated may lead to deranged development of body tissues and impaired carbohydrate, protein and fat metabolism. The involvement of tissues (Dushyas) all Dhatus except Asthi leading to damage of blood vessels, kidneys, eyes and nerve also has been mentioned in Ayurveda as major complications of Prameha.(3)

Types

According to Ayurveda Madhumeha has been divided into these categories:

1. Kaphaj Prameha (Further divided into 10 types)
2. Pittaj Prameh (Further divided into 6 types)
3. Vataj Prameh (Further divided into 4 types)
4. Sahaj Prameh (Juvenile onset diabetes)

On the basis of etiology Ayurveda divides diabetes mellitus into two categories:

1. Genetic (Sahaja) occurring in young age from very beginning of life has similarities with juvenile onset diabetes or insulin dependent diabetes.
2. Acquired (Apathayaj) due to unhealthy life style that occurs in old ages and obese person has similarities with type 2 diabetes and its prevalence is more as compare to type1 diabetes.

According to physical management

1. Apatharpana janya prameha describing the lean diabetic: Requires Santarpan chikitsa (restorative) management
2. Santarpana janya prameha relating the obese diabetic: Requires Apterpan chikitsa (fat reducing) management.

Prognosis

Charaka describes the prognosis in three categories (3)

1. Sadhya – Curable: Patients who have diagnosed early in the onset, those who are Sthoola (obese) and the origin of their disease in Apathyaja.
2. Yapya – Palliable: Pittaja prameha and certain types of kaphaja prameh as are however helps control with treatment (palliative management)(8).
3. Asadhya – Incurable: Vataja describes the incurable version of Prameha and inherited diabetes, a Krisha (lean) patient who is suffering with Sahaja variety.

Kaphaja Prameha of recent origin or early stage, Apathyaja and without complications is Sadhya because the Dosha (Kapha) and Dushta (Mada) are homologous. Pittaja types of Prameha and cases with some complications are Yapya. The disease is difficult to treat because there is combined increase of Kapha and Pitta (Dosha) affecting Meda (Dhatu) leading to pathogenesis of Prameha and if one Dosha is treated, other Dosha gets vitiated i.e., making the treatment difficult and moreover there are few drugs which act upon both Doshas.Prameha of Vatik origin, Sahaja, Krisha, old cases and with complication are Asadhya. They are incurable because of great severity and contradictory treatment. It is considered Mahavinashkari, because of heterogeneous line of treatment for both Dosha and Dushta. By seeing all above classifications we can divide the patients of Prameha broadly in two groups. In first group the patients comes which are obese, having acquired diabetes, caused due to overeating and lack of exercise with involvement of Kapha and Pitta Dosha. In second group we can place the patients which have hereditary diabetes, patients are asthenic with involvement of Vata Dosha. For the former group prognosis is better than the latter as the measures of the treatment available are better for former group. For the latter group the available treatment is less and also there are number of complications.

Updrava

There are many Updrava of Madhumeha many of which are correlated with that of complications of diabetes mentioned in modern science. Udavarta, Aruchi, Avipaka, Atisar, Badhapurisha can be compared with gastrointestinal autonomic neuropathy ‘symptoms are abdominal distension, nausea, vomiting, dysphagia, diarrhea and constipation concomitantly. Trishna, Brahama, Shoola and Shwasa can be correlated with diabetic ketoacidosis in which weaknesses, blurring of vision etc. are seen. Shoola as in diabetic neuropathy in which pain occurs as nerve involvement is there. Prameh pidika as mentioned by Achararya can be correlated with carbuncles. So to prevent these complications in diabetes is a great matter of interest and is need of hour. But modern medicines are not much efficient in controlling these complications. By following Ayurvedic principles mentioned in our ancient texts in terms of Ahar and Vihar could be better option for prevention of complications of diabetes once it has occurred.
Role of Diet and Life Style in Prevention of Prediabetes and Diabetes

Nidanparivarjan

‘Prevention is better than cure’. It is an advice to make the people alert about their life style strategies. For preventing Prameha has clearly mentioned walking for 100 Yojan (1 Yojan approx 7.5 km). Ayurveda gives more importance to the etiological factors as the avoidance of these factors can itself prevent manifestation of any disease. By following the main Ayurvedic principle of Nidanparivarjan in case of Madhumeha i.e., by avoidance of the above mentioned etiological factors that has been mentioned in our Ayurvedic texts one can prevent and manage diabetes very well. Prediabetes is the prodromal phase of diabetes in which blood glucose level may be either normal or on higher side of normal range. Fasting blood sugar screening should begin at age 30-45 years and should be repeated every three years. The health complications associated with type 2 diabetes mellitus often occur before the medical diagnosis of diabetes is made, therefore people with borderline blood sugar i.e. prediabetes should go for frequent screening and they should change their diet and life style to prevent the onset of diabetes. When we review the literature of Ayurveda Acharya charak mentioned the Purvarupa of Prameh which resembles with prediabetic conditions.

Modalities of Swasthavritta for Prevention of Madhumeha

Dinacharya, Ritucharya i.e. seasonal changes bring about diseases and they may be prevented by adopting certain seasonal diet and life style according to Dosha Sanchya Prokopa and Shamana -Shodhan respective to a particular season. Thrayopasthambha palana, Sadrvritha, Achara rasayana, Ashtanga yoga, suppress the Dharaniya vega, not to suppress the Adharaniya vega, avoid Virudhahara, not to indulge in Mithya ahara and Vihara, avoid Hina, Mithya and Ati yoga of Indriya, Kaya, Vak, and Mana, not to do Pragypadadha, not to consume Guna, Matra, Desha and Kala virudha aharas. Udvartan- It is Kapha har and causes Meda vilayan. Meda vilayan also reduces adiposity which decreases insulin resistance.

Yoga

Yoga has been practiced for more than 5000 years. Yoga stimulates the organs which in turn improves metabolic activities. Certain posture causes direct stimulation of pancreas that enhances the production of insulin by the pancreas. Vrikshasan stimulate the hormonal secretion of pancreas, Dhanurasan (Bow pose) improves the functioning of pancreas and intestines, thus helps in controlling blood sugar levels. Organs like liver, Pancreas and enzymes producing organs will function actively by practicing Ardhamatsendrasan (half twisted pose) and Halasan (plough pose). Yoga helps in rejuvenating pancreatic cells, increases glucose uptake by muscular cells, improve circulation and reduce the risk of cardiovascular disease. Exercising through yoga can reduce weight that is essential for type 2 diabetes. Regular yoga practice can help to focus the mind and create the right mental approach to prevent and manage diabetes.

Pranayam

Besides asanas, breathing exercises like Anulom Vilom (alternate nostril breathing) and Kapalbhatti (one time inhale; exhale) 30 to 40 times quickly is extremely effective for prevention and management of diabetes. Anulom Vilom has calming effects on nervous system, causing equilibrium in function of all the system. Thus, this Pranayam can reduce the risk of various complications like neuropathy. Kapal bhatti on the other hand stimulate pancreas and help control blood sugar level.

Diet

The role of Ahara and Vihara are equally or even more important in diabetes to control blood sugar level as well as to prevent complications of this disease. In all classics, Ahara dravyas are described in detail and they cover all the food groups are:

1. Cereals: Yava (Hordeum vulgare - Barley), different preparation of barley e.g. Mantha, Odana etc. Wheat (Ghodhoona) can also be given. Old rice (Paruna shali), as one of the cereals, which can be prescribed to the prediabetic patient and diabetic patient.

2. Pulses: Muyga (Green gram), Chanaka (Cicer arietinum), Kulattha (Dolichos biflorus), Adhaki ( Cajanus cajan ) etc. should be taken.

3. Vegetables: All types of bitter vegetables (Tikta shaka) e.g. Karel (Momordica charantia), Methi (Trigonella foenum), Patola (Vietnamese luffa), Rasona (Allium sativum), Udumbara (Ficus racemos), etc. should be given.

4. Fruits: Jambu (Syzygium cummi), Amalaki (Phyllanthus emblica), Kapitta (Limonia acidissima, Tala phala (Borassus flabellifer), Khjurana (Phoenix sylvestris ), Kamala (Nelumbo nucifera), Utpala (Nymphaea Stellata) etc. should be given.

5. Seeds: Kamala, Utpala seeds can be allowed to take.

6. Flesh: Harina mamsa (Deer flesh), Shashaka mansa (Rabbit), Flesh of birds like Kapotha, Titira etc., can be taken.

7. Liquor: Old Sura (old wine) may be given.

8. Oils: Mustard oil (Sarshapha taila) is best. Ingudi (Balanitis aegyptiaca), Ghristha may be used in Pitthaja prameha.

CONCLUSION

Diabetes mellitus is a chronic metabolic disorder of impaired carbohydrates, fat and protein metabolism. Limiting of diabetes mellitus without any side effects is a challenge still to the medical system. High risk people should be identified and they are advised for behavioral, dietary and lifestyle changes after recognizing Purvaroop of Madhumeha. Type 2 diabetes mellitus is a common, primarily because of increases in the prevalence of a sedentary lifestyle and obesity. With appropriate use of Ayurvedic preventive measures as explained in our Ayurvedic literature as Swasthavritta modalities such as Nidanparivarjan, Dinacharya, Ritucharya, Ahar vidhi, Yoga, Pranayam and therapeutic measures Madhumeha (DM) can be prevented at all levels.
REFERENCES


