

An Ayurvedic Review on Diabetes mellitus (*Madhumeha*)

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Abstract:

Today's era is dominated by disorders of life style and *Ayurveda* is the best solution to these disorders. *Ayurveda* is often referred as "Science of life" but it is more of a science that deals with prevention of mental & physical disorders. It is one of the oldest systems of medicine. *Prameha*, as described by *Acharya Charka & Sushruta* is one of the disorders that have emerged out of urban life style. The causes and symptomatology of *Madhumeha* described few thousand years back run parallel with the causes of Diabetes Mellitus mentioned by the system of modern medicine. Hence, *Madhumeha* can be co-related with diabetes mellitus. In all, 20 types of *Prameha* have been described based on the predominance of *Vata*, *Pitta* & *Kapha*.¹ *Madhumeha* is a subtype of *Vataja prameha*.² There are four types of *Vataja Prameha* i.e. *Vasameha*, *Majjameha*, *Hastimeha* and *Madhumeha*. *Ayurveda* includes *Prameha* amongst *Ashto Mahagada*.⁴ It is of two kinds viz one due to *vata vridhhi* caused by *dhatu kshaya* and another by *vata vridhhi* caused by obstruction of channels of *vata* by other *doshas*.⁵

Keywords:

Diabetes, *Madhumeha*, *Ayurveda*, Sedentary-lifestyle.

INTRODUCTION

Diabetes is one of the leading causes of morbidity and mortality in the world⁶. In modern medicine, in spite of tremendous advancement till date an ideal drug which can cure diabetes is not yet available and still scientists are struggling to search an effective and harmless therapy. The International Diabetes Federation estimated that the number of diabetes patients has doubled from 19 million in 1995 to 40.9 million in 2007 and it is projected to increase to 69.9 million by 2025⁷. Almost 11% of urban population above the age of 15 is having diabetes. WHO estimated that diabetes and heart disease tolls India approximately to \$210 billion and it is supposed to increase up to \$ 335 billion in next 10 years. Considering the etiopathogenesis as mentioned by Acharya Charka, it can be scientifically stated that *Madhumeha* is a life style disorder and by means of proper *Dincharya*, *Ritucharya*, *Pathya* - *Apathya* and *Ayurvedic* formulation we can treat diabetes and reduce its prevalence and complication. Diabetes mellitus is a metabolic disorder of multiple etiology, characterized by chronic hyperglycemia with disturbances of carbohydrate, fat and protein metabolism resulting from defects in insulin secretion, insulin action, or both⁸. *Ayurvedic* remedies for *Madhumeha* (Diabetes mellitus) are the oldest among all the available therapies, which includes in the *Prameha* category. *Prameha* are a list of urinary disorders, especially characterized by profuse urination with several abnormal qualities due to imbalance of *Doshas*. In *Madhumeha* the urine becomes (sweet and smells) like honey. It is of two distinct types, one due to the aggravation of *Vata* on account of the *Dhatukshaya* and the other due to *Kapha-*

meda Avarana (Blockage of channel along with *Vata prakopa*). When there is condition of *Avarana* (blockage of the channels/ activity) there are the additional symptoms of the vitiation of the particular *Dosha* without any other apparent cause. Sometimes the symptoms are mild and suddenly they appear in severe form which is difficult to cure.

Etiology-

Sedentary habits and the pleasure of excessive sleep, milk and its preparation, newly harvested cereals, new/ fresh wines, preparations of *jaggery* (cane sugar preparations) and all other *Kapha*-aggravating factors are the causes of the diabetes syndrome.⁹

Pathogenesis –

Pathogenesis of *Madhumeha* is best described by Acharya Vagbhata. He said *Madhumeha* can originate in two ways-

1. By the aggravation of *Vata* caused by *Dhatukshaya*.
2. By the obstruction of *Vata* caused by *Doshas* covering it.

Madhumeha which is caused by *Dhatukshaya* manifests as thin and asthenic individual due to loss of *Oja*. All this is *Ojakshaya* meaning an imbalance in *Ojus*. In *Margavaranjanya Madhumeha* the vitiated *Kapha* and *Meda* obstruct the passage of *Vata*. The obstructed *Vata* is vitiated again and carries *Ojus* to *Basti* thus manifests *Madhumeha*¹⁰. As per *Ayurveda* according to the potency of particular feature of etiology, *Dosha* (innate pathogenic factors) and *Dushyas* (substratum of pathology), response occurs in the form of non-manifestation or otherwise of the disorders. When these three factors do not combine together or if

combined after a long time or in weakened state, disorder will not be there, or it will manifest lately, or in a mild form or without all the said symptoms. On the contrary, the result will be contrary. Thus is said the cause of response in the form of non manifestation or otherwise of all disorders.¹¹

Premonitory Symptoms¹² –There premonitory symptom are- feeling of burning in the palms and soles, heaviness in body, urine is sweet, bad in smell and white in color, stupor, debility, profound thirst, *dyspnea*, more accumulation of dirt in the palate, throat, tongue and teeth, hairs on the head adhering to one another and more growth of the hairs and nails.

Clinical Features¹³- The general features of the diabetes syndrome is the passage of profuse and/ or turbid urine, the urine becomes like honey and the entire body becomes very sweet⁶. *Sushrutacharya* also says that *Sahajameha Rogi* are usually *Krishha* (Thin built) while *Apathyanimittaja Rogi* are usually *Sthula* (Obese).

Classification of Diabetes Mellitus¹⁴:-

Type- 1 Diabetes Mellitus- Type 1 diabetes, formerly called juvenile diabetes, is usually diagnosed in children, teenagers and young adults. Type 1 diabetes may develop in adults. This is an autoimmune disease causing specific destruction of Beta-cell of pancreas which result in an absolute *insulinopaenia*.

Type- 2 Diabetes Mellitus- Type 2 diabetes, formerly called adult onset diabetes, is the most common form and has an insidious onset. It is commonly seen in

adults, but can occur even in childhood. Weight loss is uncommon unless *hyperglycaemia* is severe while ketosis is rare. Familial inheritance is very common. This form of diabetes usually begins with insulin resistance and initially there is a counter regulatory *hyperinsulinaemia*. With time, the pancreas loses its ability to secrete enough insulin in response to meals and clinical diabetes develops.

Gestational Diabetes- Gestational diabetes is carbohydrate intolerance resulting in hyper *glycaemia* of variable severity with onset or first recognition during pregnancy.

Other types of diabetes- A number of other types of diabetes exist which develop due to:

1. Genetic defects of the beta-cell
2. Genetic defects in insulin action
3. Disease of the pancreases
4. Excess amounts of counter regulatory hormone
5. Infection
6. Rare autoimmune disorders
7. Genetic syndromes associated with diabetes.

Criteria for the diagnosis of DM:-

Fasting:-

- Normal- < 110 mg/dl
- Impaired fasting glucose- > 110 and <126 mg/dl
- Diabetes mellitus- ≥ 126 mg/dl 2-hour post load –

Post prandial :-

- Normal- < 140 mg/dl
- Impaired glucose tolerance- > 140 and < 200 mg/dl
- Diabetes mellitus- > 200 mg/dl with symptoms

Investigation:

1. O.G.T.T. (Oral Glucose Tolerance Test)
2. Lipid profile
3. Liver Biochemistry
4. Glycosylated Haemoglobin (HbA1C)
5. Blood glucose-Random, Fasting, Postprandial
6. Urine tests-Urine testing for glucose is still widely used.
7. *Proteinuria* is a reflection of the development of renal complication.

Complications :-

Improper digestion, Loss of taste, Vomiting, Burning sensation, Thirst, Sour belching, Fainting, Loss of sleep, Tremors, Emaciation, Dyspnea, Too much elimination of urine, Troubled by appearance of deep seated *Pidikas* (Eruption), Erysipelas, Feeling of heaviness of the body.¹⁵

1. **Metabolic complication-** *Ketoacidosis, Hyperosmolar coma*
2. **Infective-** Bacterial and fungal infections of the skin, mucosa, soft tissues, bone, urinary tract and lungs.
3. **Late complication-** Atherosclerosis Coronary heart disease, cerebrovascular disease and Peripheral vascular disease. Cataract, Diabetic ulcer (Diabetic foot), Infection, *Microangiopathy*, Nephropathy, Retinopathy, *Dermopathy*, Neuropathy-*Polyneuropathy, mononeuropathy, radiculopathy, amyotrophy*, autonomic neuropathy.
4. **Complications of therapy-** Hypoglycemia, Insulin resistance, Insulin allergy, *Lipodystrophy*,

Lactic acidosis, Depression of bone marrow

5. **Maternal and foetal disorder in G.D.M.**¹⁶

Prognosis Incurability-

The diabetes syndrome since birth due to a genetic defect is said to be incurable. All stage of the diabetes syndrome, if not treated properly lead to severe complication like CRF (Nephropathy), Retinopathy and multiple organ failure are incurable in due course of time and then become incurable.¹⁷

Treatment¹⁸-

In general Type 1 Diabetes mellitus i.e. *Krishna Pramehi* patients are advised to have *Bringinghan* medication (Anabolic) as well as a diet which increase *Dhatu*s in the body.

In type 2 Diabetes, Obese diabetic patients (*Apathyanimitaja Rogi*) with optimal body strength having intense increase of *Doshas*, *Samshodhan* (purification) of the body advocated.

1. *Snehana* (preparation of oil internally & externally)
2. *Shodhana* (Purification therapy under three category)
 - a. *Virechana*
 - b. *Basti* (*Asthapana/ Niruha*)
3. *Shamana* with drugs.
4. Exercise and life style modification & following regular regimen of exercise, yoga, pranayama and regular food & sleep, following *Ritucharya & Dinacharya*.

Basti in appropriated conditions¹⁹ -

Though the *Basti* treatment is contraindicated in treatment of *Prameha* because it again aggravate the disease, but

some special *Basti* are indicated for *Prameha* in different situations.

Asthapana Basti:-

- *Kashaya* of *Sursadi gana* is indicated.
- *Panchatikta Basti*- *Basti* prepared with the *Kwatha* of *Patola*, *Nimba*, *Bhunimba*, *Rasna* and ***Santarpana***.

Vit-Khadir Basti- *Basti* prepared with the *Kwath* of *Somvark* (*Vit-Khadir*) is indicated for *Prameha*.

Anuvasana Basti-

It is contraindicated in *Prameha* then it causes excitation of *Doshas* leading to the manifestation of *Udara Roga*. For this purpose, the oleated patient should be given various recipes described in *Kalpa* section with a view to eliminating excreta through both upward and downward tracts. After the excreta are eliminated from his body, the patient should be given *Santarpana* or refreshing therapy because *Apatarpana* (fasting) therapy in this condition may produce *Gulma*, consumption, pain in phallus and urinary bladder including kidneys and retention of urine, such patients should be given *Santarpana* therapy depending upon their power of digestion.

Herbal medications helpful in *Madhumeha* (Diabetes mellitus)²⁰-

Musta (*Cyperus rotundus*), *Daruharidra* (*Berberis aristata*), *Arjuna* (*Terminalia arjuna*), *Khadir* (*Acacia catechu*), *Lodhra* (*Symplocos racemosa*), *Guduchi* (*Tinospora cordifolia*), *Patol* (*Trichosanthe dioica*), *Vata* (*Ficus bengalensis*), *Udumbar* (*Ficus glomerata*), *Gudmar* (*Gymnema sylvestre*), *Asana* (*Pterocarpus marsupium*), *Shilajit* (*Purified Bitumen*), *Kumbha* (*Leucas cephalotes*) and *Nimba* (*Azardicta indica*).

Following preparation may be used judiciously in a patient of *Prameha* – *Madhumeha* for effective management²¹

- Ghrita & Taila*- *Trikantakdya Sneha*, *Dadimadhya Ghrita*, *Shalmali Ghrita*, *Dhanvantar Ghrita*, *Triphala Ghrita*, *Prameha mihir Taila*.
- Asava*- *Arista*- *Lodhra Asava* or *Madhva Asava*, *Datya Asava*, *Devdarvadi Arista*.
- Leha* (Paste)- *Salsaradi leha*, *Kusha Avleha*, *Vanga Avleha*.
- Udaka*- *Sarodaka*, *Kushodaka*, *Madhukodaka*, *Sidhu*, *Madhvika*.
- Vati* (Tablet)- *Trikatukadya Modaka*, *Shiva Gutika*, *Shilajatvadi Vati*, *Chandraprabha Vati*, *Indra Vati*, *Gokshuradi Vati*, *Aarogyavardhini Vati*.
- Churna* (powders)- *Nyagrodadi Churna*, *Eladi Churna*, *Karkatbijadi Churna*, *Triphala Churna*.
- Rasa/ Bhasam*- *Vasantakusumakar Rasa*, *Brihta Bangeshwar Rasa*, *Suvarna vanga*, *Apurvamalinivasant Rasa*, *Harishankar Rasa*, *Panchanana Rasa*.
- Kwatha* (Decoction)- *Phala trikadi Kwath*, *Darvyadi Kwath*, *Vidangadi Kwath*, *Triphaladi Kwath*

Diabetes can be controlled by giving comprehensive attention to three aspects²²:

- *Ahara* (Diet)
- *Vihara* (Exercise)
- *Aushadha* (Medicine)

The role of *ahara* and *vihara* are equally or even more important than drugs in order to

control blood sugar level as well as to prevent complication of this disease.

Cereals-Yava-

Barley (*Chenopodium album*),
godhooma- Wheat, *Shyamaka*, *kodrava*,
bajara.

Pulses-

Mainly beans- *Mudga* (*Greengram*),
Chanaka (*Bengal gram*).
Vegetables- *Thiktha shakas*, *Methika*
(*Trigonella foenum-gracum*), *Nimba*
(*Azadirachta indica*), *Karavella*
(*Momordica charantia*), *Patola*
(*Trichosanthes anguina*), *Rasona* (Garlic),
Udmbara (*Ficus racemosa*).

Fruits- *Jambu* (*Syzygium cumini*),
Talaphala (*Borassus flabellifer*), *Kharjura*
(*Phoenix sylvestris*), *Bilwas* (*Aegle marmelos*).

Pathya and Apathya²³ -

Shyama, *Kodrava*, *Godhum* and
Kullatha which are old- are suitable to be
used as foods by patients of *Madhumeha*
(Diabetes). Vegetables of bitter taste
(*Tikta*), meat of animals and eggs of birds
of deserts like regions (*Jangala mamsa*),
boiled *Yava* and its preparations, *Mudag*,
Shali, and *Shastika* are all suitable as foods.
Sura (beer), Buttermilk, oils, milk ghee,
jaggery, foods processed with sours,
sugarcane, juice, food prepared from flour,
meat of animals of marshy regions should
be avoided from use.

Yoga –

Yoga improves all sorts of
metabolism in the body. So diabetics
should perform different types of yoga.
Yoga will definitely help diabetes mellitus.
Yoga now-a-days has attracted the attention
of Western people. Common *Aasana* that
can be very effective in Diabetes are
Padmasana, *Shalabhasana*, *Mayurasana*,
Suryanamaskar, *Dhanurasana*.²⁴

Exercises- Brisk walking, jogging,
bicycling, swimming, playing badminton
& tennis.

CONCLUSION:

Diabetes mellitus is a metabolic disease
of multiple etiology and in classical
Ayurvedic text it is described as
Madhumeha. Two type of clinical
presentation are seen *Krishna Pramehi* &
Sthula Pramehi as Type-I & Type-II
diabetes respectively. Modern
therapeutics has many limitation but
Ayurvedic principles of management can
help the patient to have better blood sugar
control and better quality of life. Various
researches carried out on drugs like
Giloya, *Vijayasara*, *Haritaki*, *Manjistha*
& many other formulations have shown
promising results in treating Diabetes
mellitus. In addition, life style
modification with adopting proper food
habits, yoga & exercise have very
important role in the management of
diabetes mellitus.

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