

## MADHUMEHA (DIABETES MELLITUS) IN AYURVEDIC PERSPECTIVE AND ITS MANAGEMENT

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### ABSTRACT

Diabetes Mellitus is one of the most common non-communicable diseases globally. It has emerged as a public health problem in India. Diabetes mellitus is a chronic metabolic disorder due to either insulin deficiency or due to peripheral tissue resistance to the action of insulin. In *Ayurveda*, this condition can be explained as *Madhumeha*. Diabetes Mellitus is known to Indians from Vedic period onwards by the name *Asrava (Prameha)*. They were treating this problem very effectively. Diabetes is also known as *Madhumeha* in *Ayurveda*. According to *Ayurveda*, *prameha* is divided in 3 major types. 1. *Kapha* type (again divided into 10 types) 2. *Pitta* type (again divided into 6 types) 3. *Vata* type (divided into 4 types). The main causative factor is said to be sedentary lifestyle, excessive intake of sweet, non-vegetarian, dairy product, Jaggery (Cane sugar preparations) and heavy & excess meals. In *Ayurveda* it is described in *Vataja Pramehas*, and can be managed conservatively with exercise, diet and medication. Drugs like *Gudmar (Gymnema sylvestris)*, *Asana (Pterocarpus marsupium)*, *Shilajit (Purified Bitumen)*, *Khadir (Acacia catechu)*, *Lodhra (Symplocos racemosa)*, *Guduchi (Tinospora cordifolia)*, *Jambu (Syzygium cumini)* are effective in controlling hyperglycemia.

**Keywords:** Diabetes, Profound thirst, Burning sensation in palm & sole, Sedentary-lifestyle.

### INTRODUCTION

Diabetes mellitus (DM) affects 5-6% of global adult population. "World Diabetes Congress" summarized on 14th Nov.2009; that Diabetes is expected to affect 380 million by 2025. Every 10 seconds a person dies from Diabetes

related disorder. India has the largest Diabetes population in the world with an estimated 41 million people, amounting to 6% of the adult population. It is estimated that between 1995 to 2025 diabetic patients in India will increase

by 195%. As age progresses, in either sex, the probability to get Diabetes increases. In the population that is above 60 years of age, approximately 18.3 percent have Diabetes. Ayurvedic point of view Diabetes is a disease which is caused due to *Nidana Sevana* that aggravates *Kapha* and vitiates *Meda Dhatu* in the body. India has been projected by W.H.O. as the country with the fastest growing population of Diabetic patients. The problem with diabetes mellitus is that it is very difficult to diagnose in the early stages. However, when a person sticks to an Ayurvedic preventive strategy right from the beginning can easily prevent this disease or control it if already suffering. It is a medical condition in which there is hyperglycemia (increase blood glucose level) and glycosuria (excretion of the glucose into the urine) both occurs. The word diabetes has been derived from two words, diabetes (Greek) which means 'siphon through' and mellitus (Latin) which means 'sweetened with honey'. Diabetes mellitus is a metabolic disorder, i.e. it is caused due to the malfunctioning of the pancreas, which is responsible for the production of the hormone insulin.

**Madhumeha (Prameha) :-**

Ayurvedic remedies for *Madhumeha* (diabetes mellitus) are the oldest among all the available therapies, which includes in the *prameha* category. *Pramehas* are a list of urinary disorders, especially characterized by profuse urination with several abnormal qualities due to *doshic* imbalances. The main causes of *prameha* are lack of exercise and improper food habits in excess food intake which falls in the category of *ushna*, *snigdha* and *guru* are the primal cause of this disease - Fish, curd are good example. Foods that in-

crease *kapha*, *medhas* and *mootra* are the etiological factors for *prameha*. The word *Prameha* is derived from, *Pra* – means excess, *Meha* – *ksharane* - passing of urine. So *Prameha* is passing excessive urine and turbid in color ('*prabhootha avila mootrata*')

**ETIOLOGY:-**

Intake of food having cold, oily, sweet quality, dairy product like cheese and curd, consuming grains and pulses which are new, meat of aquatic animals, sweets like jiggery, Sleeping in day time, lack of exercise, Laziness, Sedentary habits, sweet and fatty items etc<sup>1</sup>

**Classification:-**

I. *Prameha* is classified aetiologically in to *Sahaja* (Hereditary) and *Apathya nimittaja* (Unwholesome things – food and exercise etc.), *Sahaja* means due to *Matapitabheejado-shakruit* (Chromosomal defect from parents)<sup>2</sup>.

II. According to physical management<sup>3</sup>

- *Apatharpana uthaja prameha* describing the lean diabetic
- *Santharpana uthaja prameha* relating the obese diabetic

III. According to the *doshic* causes, these *pramehas* are classified as twenty types<sup>4</sup> :

- *Vataja pramehas* – There are totally four *vataja pramehas*.
- *Pittaja pramehas* – There are totally six *pittaja pramehas*.
- *Kaphaja pramehas* – There are totally ten *kaphaja pramehas*.
- Out of these, diabetes mellitus is termed as *madhumeha*. It is one of the four *Vataja pramehas*.

**Samprapthi ghatak** <sup>5</sup>:- (favorable things for disease)

- *Dosha* (humur) – *vata, pitta, kapha*
- *Dushya* – *abadha meda, mamsa, kleda, shukra, rakta, vasa, majja, lasika, rasa and ojas*
- *Srotas* (channel) – *mootravaha*
- *Srotodusti* – *sanga, atipravrutti*
- *Agni* – *dhatvagnimandhya*
- *Udhhavasthana* – *antha koshta(aampakvashya)*
- *Vyaktasthana* – *mootravaha srotas*(urinary tract)

**Samprapthi (Pathogenesis) :-**

*Kapha* undergoing increase by the etiological factors, reaches various *dooshyas* like *rasa* (plasma), *rakta* (blood) etc., As there is a *shai-thilyata* (looseness) in the body and it being

fluid predominant, spreads all over the body and gets vitiated, while spreading it gets mixed with *medas* (fat – adipose tissue), *mamsa* (muscle) and *kleda* (body fluids). Body fluids which got vitiated draw them to the urinary bladder and produces *prameha*; similarly the *Pitta* affects them, *Vata* also brings about vitiation in them and produce *prameha*.<sup>6</sup>

**Premonitory symptoms:-**<sup>7,8</sup>

In *Ayurveda* we can find the described of early symptoms of the disease. They are accumulation of dirt on the teeth (mouth, eyes, nose, and ears), a feeling of burning sensation in the palms and soles, stickiness of the skin all over the body, thirst and a sweet taste in the mouth etc., and *moothra madhuryam* (sweetness of urine).

**Table 1:** Specific Ayurvedic Symptoms (Parameters)

S.NO.	SANSKRITA WORD	ENGLISH MEANING
1.	<i>Malina danta</i>	Tartar in teeth
2.	<i>Hasta pada daha</i>	Burning sensation of hands and feet
3.	<i>Deha chikkanata</i>	Excess glossy/ oily skin
4.	<i>Trishna</i>	Excessive thirst
5.	<i>Madhuryamasya</i>	Feeling sweetness in mouth
6.	<i>Prabhuta mutrata</i>	Excessive urination
7.	<i>Avila mutrata</i>	Turbid urination
8.	<i>Madhu samana varna</i>	Urine having colour of honey
9.	<i>Sweda</i>	Excess perspiration
10.	<i>Anga gandha</i>	Bad body odour
11.	<i>Shithilangata</i>	Flaccidity of muscles
12.	<i>Shayana asana Swapna sukha</i>	Desire for sedentary life
13.	<i>Shitapriyatwa</i>	Desire for cold food & environment
14.	<i>Gala talu shosha</i>	Dryness of palate & throat

**Clinical symptoms:-**

*Prabhootha mutrata* (Poly uria), *Avila mutrata* (Turbid Urine) and *Medo dushti lakshanas* are the main symptoms of *prameha*.<sup>9</sup>

**Prognosis:-**

*Charaka* describes the prognosis in three categories<sup>10</sup> -

- a. *Sadhya* – Curable: Patients who have diagnosed early in the onset, those who are *sthoola* (obese) and the origin of their disease in *apathyaja*.
- b. *Yapya* – Palliable: *Pittaja prameha* and certain types of *kaphaja pramehas* are however helps control with treatment (palliative management).
- c. *Asadhya* – Incurable: *Vataja* describes the incurable version of *prameha* and inherited diabetes, a *krisha* (lean) patient who is suffering with *Sahaja* variety.

### Treatment:-<sup>11</sup>

According to *Ayurveda* the line of treatment of *prameha* is strictly on individual's constitution. It is based on an entire change in the lifestyle of the person, along with medication and diet, the patient is also advised to lead a healthy lifestyle and live an active life. Even mental aspects of the disease are stressed. The principles of treatment in a diabetic patient may be classified as under There are two types of diabetics:

#### 1. *Sthulya* (Obese) 2. *Krusha* (Asthenic).

##### 1. In *Sthulya* (Obese):-

The treatment must be mainly based on proper utilization of excess fat i.e. he should be give:

- a) *Shodhana* (purification process),
- b) *Apatarpana* - reduction in body weight by way of diet control or drugs, *Vyayama* (exercise) etc.

- Fasting
- Diet control
- Physical exercise
- Cleansing therapies – *vamana* – (induction of emesis), *virechana* (induction of purgation),

*basti* (application of medicine through the anal route – in specific conditions)

2. In *krusha* (For Lean patient):- Asthenic type the treatment should be mainly based on the line of increasing stamina and vitality by way of tonics (*brumhana*) diet, drugs etc., and the patient should never be given excessive *Langhana* or *Apatarpana* i.e. he should not be starved.

Note: The patient, whether obese or Asthenic, suffers from the complications like *gulma* (tumours), *Kshaya* (Tuberculosis), pain in abdomen etc., he should always be given some food. A diabetic and an obese person generally suffer from excessive appetite and thirst and so some type of nutrition should always be given to them.

**Diet:-<sup>12</sup>** The following are the articles of food which can be given to the diabetes:- 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: -

**Cereals:** *Yava*<sup>13</sup> (*Hordeum vulgare* - Barley) are the best, different preparations of food, prepared from Barley can be given e.g. *Mantha*, *Odana*, *Appopa*, bread, Roti etc. This is the subject of pharmaceuticals and food stuffs. So the method of preparations of barley is not dealt with here. Wheat (*Godooma*) can also be given. Rice: - *Ayurveda* prescribed old rice (*purana shali*), as one of the cereals, which can be prescribed to the diabetic patients.

**Pulses:** *Mudga* (Vignaradiata Greengram), *Chanaka* (Cicer arietinum Linn. – Bengal gram), *Kulattha* (Dolichos biflorus), *Adhaki* (Cajanus cajan - Pigeon pea) etc, can be taken.<sup>14</sup>

**Vegetables:** All types of bitter vegetables (*Tikta shaka*) e.g. *Karela* (*Momordica charantia* - Bitter gourd), *Methi* (*Trigonella foenum-graecum* - Fenugreek), *Patola* (*Vietnamese luffa*, *Vietnamese gourd*, or *Chinese okra*), *Rasona* (*Allium sativum* Linn. – Garlic), *Udumbara* (*Ficus racemosa* - Cluster Fig Tree, Indian Fig Tree or Goolar (Gular) Fig), etc. should be given

**Fruits:** *Jambu* (*Syzygium cuini* - Black berry), *Amalaki* (*Phyllanthus emblica* - Nepalese/Indian gooseberry, or *Dhatirik* (in Maithili) or *amla*), *Kapitta* (*Limonia acidissima* - Wood Apple, Elephant Apple, Monkey Fruit or Curd Fruit ), *Tala phala* (*Borassus flabellifer* - the Asian Palmyra palm, Toddy palm, Sugar palm, or Cambodian palm), *Kharjura* (*Phoenix sylvestris* –Date Sugar Palm ), *Kamala* (*Nelumbo nucifera* Indian lotus, sacred lotus, bean of India, or simply lotus,), *Utpala* (*Nymphoea Stellata*) etc., can be allowed to take.

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

**Flesh:** *Harina mamsa* (Deer flesh), *Shashaka mamsa* (Rabbit), birds like *Kapotha*, *Titira* etc., can be taken<sup>15</sup>.

**Liquor:** *sarodaka*, *kushoidaka*, *madudaka*<sup>16</sup>

**Oils:**<sup>17</sup> Mustard oil (*Sarshapa taila*) is best. *Ingudi* (*Balanitis aegyptiaca*) *Ghritha* may be used in *pitthaja prameha*. But according to *Ayurveda* one should start with light diet (*laghu bhaksha*, *laghu ahara*) and then gradually increase the quantity of food. It is a rule that

one should keep complete attention on the condition of Agni i.e. digestion. Diabetes being a disease of deranged metabolism, special attention should be kept on the condition of digestion and metabolism.

**Exercise:-**

Hard exercises are prescribed for diabetics and obese persons. This is meant for proper utilization of the fat and consumes the glucose in the body. The methods can be-changed in the present times according to the habitat (*desha*) and time (*kala*). But the exercises are very necessary. Some of the hard, productive exercises prescribed by *Shushruta* are as under:-<sup>18</sup>

1. *Vyayarma* (exercises)
2. *Niyudidha* (fighting) –
3. *Kreeda* (games)
4. *Gajacharya*, *turagacharya*, *rathacharya*, *padacharya* to ride an elephant, horse, cart riding and walking etc, Over and above mentioned heavy exercises, there are other exercises according to the financial position and also according to their community.

**They are:**

1. For poor class, the diabetic should walk about 100 miles, bare footed, not staying more than one night in the settle place, should eat only the things available by begging and keeping restraint on his sense organs (adopt the life style of *Muni/Sage*).
2. For rich diabetics- they should ate only *Shyamaka*, *Kodrava* etc., *Amalaka*, *Kapitha* etc., and reside with the cattle (domestic animals). The food stuff for them should be *Ruksha* (free from fat) or they may stay with the cows and eat the above with the urine and faeces of the cow com-

pare this with the character in *Raghuvamsha*.

- For other either farming or digging a well etc. From the above, it will be seen that the exercise prescribed by the *Acharyas* are very hard and productive. In short for diabetics exercise serves the purposes of (1) Utilizing the fat and (2) Metabolizing sugar fat and carbohydrates, and also proteins. In the present day civilization, when these types of exercise are not possible, one should regularly play some out-door games, do some productive work, or the best is different type yogic exercises.
- 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.

### Drugs:-

As regards drugs, there are so many drugs and formularies but the main drugs are either bitter (*Tikta*) or astringent (*kashaya*) in taste. They improve the fat and carbohydrate metabolism. Some of the medicines are given below; The drug of choice is (1) *Shilajatu*<sup>19</sup> (2) *tuvaraka*<sup>20</sup> and (3) *makshika dhatu*<sup>21</sup>.

### Single formulations

- Guduchi swarasa (Tinospora cardifolia)* – 10ml twice a day with honey<sup>22</sup>
- shatavari swarasa (asparagus racemosus)* – 20 ml once a day with cow milk<sup>23</sup>
- Amalaki Churna (Phyllanthus emblica)* – 6 gm twice a day with honey<sup>24</sup>
- Karavellaka Phala Curna (Momordia charantia)* – 3 gm twice a day with water<sup>25</sup>

**Table 2:** Compound preparations

S.NO.	FORMULATION	DOSE	ANUPAN
1.	<i>Chandraprabha vati</i> <sup>26</sup>	500 mg twice a day	water/milk
2.	<i>Triphala churna</i> <sup>27</sup>	3 gm twice a day	Honey
3.	<i>Mehamudgar gutika</i> <sup>28</sup>	1 gm twice a day	Water/ goat milk
4.	<i>Indra vati</i> <sup>29</sup>	125 mg twice a day	Honey
5.	<i>Chandra kala gutika</i> <sup>30</sup>	500 mg twice a day	Water
6.	<i>Swarna makshika bhasma</i> <sup>31</sup>	125 mg twice a day	honey
7.	<i>Panchanan rasa</i> <sup>32</sup>	250 mg twice a day	Cold water
8.	<i>Prameha kulantak rasa</i> <sup>33</sup>	250 mg twice a day	Luke warm water
9.	<i>Basant kusumakar rasa</i> <sup>34</sup>	250 mg twice a day	honey
10.	<i>Anandbhairav rasa</i> <sup>35</sup>	250 mg twice a day	honey

### Medicated Ghee

- Dhanvantara ghrta* 5 to 10 gm/day<sup>36</sup>
- Dadimadya ghrta* 5 to 10 gm/day<sup>37</sup>
- Sinhamrita ghrta* 5 to 10 gm/day<sup>38</sup>

### Avaleha

- Saraleha*<sup>39</sup>: Prepare decoction of *asana* (*Pterocarpus marsupium*), *khadira*, *babbula* and *bakula* (*Mimusops elengi*). During boiling add oxides of *tamra* and *loha* and powders of

*amalaki, danti, lodhra* and *priyangu*. This is useful for all types of *Prameha*.

2. *Gokshuradyavaleha*<sup>40</sup> : prepare decoction of *gokshura* and add *trikatu, nagakeshara, cinamon, ela, jatipatra* and *vamshalochana*. This is also useful in all types of *Pramehas*.

### **Kwatha (decoction)**

(1) *phalatrikadi kwatha*<sup>41</sup>

(2) *daruharidra, devadaru, amalaki, haritaki, vibhitaki, nagarmotha*<sup>42</sup>

### **CONCLUSION**

Western approach for Diabetes is based on wrong footings. Treating hyperglycemia with hypoglycemic drugs without caring to correct the metabolic impairment is something like applying dye to the grey hair which though helps to look younger does not reverse the fundamental process of senescence. *Ayurveda* does not regard diabetes mellitus as a disease that can be treated by mere medicine or by a dietary regimen. Though it is a *yapya* (not totally curable / difficult to cure) disease, the prolonged use of the above treatment procedure will not only generate the person free from Diabetes Mellitus but protect to live a long life (*deergha jeevanam*), healthy (*sukhayu*) and will be useful to the society (*hitayu*). Separating 19 *Mehas* from the chapter of *pramehas* and attributing the whole description to *Madhumeha* identifies Ayurvedic concept of this most dreadly disorder – Diabetes mellitus.

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