**Hitkara Aahara in the Management of Diabetes Mellitus: A Critical Review**

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**Abstract:** Diabetes Mellitus is a well-known multifactorial metabolic disorder characterized by abnormally high blood glucose due to absolute or relative lack of insulin. In ancient Ayurvedic texts this disease is described as Madhumeha, a form of Vataja Prameha, characterized by passing of excessive amount of sweet urine. The incidence of Diabetes has increased drastically in the recent times because of sedentary lifestyle and unhealthy dietary habits, which are the main etiological factors for this disease. Nidana Parivarjan is described, as the first line of treatment for every disease and since, Diabetes mellitus is a life style disorder, pathya-aahara vihara plays a very crucial role in controlling blood sugar level; so, the present paper will throw a light on Hitkaraaahara mentioned in Ayurvedic texts for the proper management and prevention of Diabetes mellitus.

**Keywords:** Hitkara, Madhumeha Diabetes, diet, nutrition

1. **Introduction**

Diabetes mellitus is characterized by passing of excessive amount of sweet urine (polyuria) along with polydipsia (increased thirst) and polyphagia (increased hunger). Ancient Indian physicians identified the disease as Madhumeha / Kshaudrameha noticing that the urine of patient attracts ants and if the literal meaning of the words in “Madhumeha” i.e. “honey urine” is considered, it is akin to Diabetes mellitus. Importance of this disease can be highlighted by the fact that it is mentionedunder ashtamahagada by Charaka, Vagbhata, Sushruta and Gangadharra. The global prevalence of diabetes among adults has risen from 4.7% in 1980 to 8.8% in 2017 with 424.9 million people having diabetes in 2017. The prevalence of type-2 Diabetes mellitus increases with age; however, in the recent times it is seen that this disease has started affecting the younger age groups and even the adolescents are suffering from it. India actually has 2nd highest number of diabetics of any one country in the entire world, however, it is expected to have maximum number of diabetics by 2045, and will soon gain the title “Diabetic capital” of the world. Further, approximately 4.0 (3.2-5.0) million people aged between 20 and 79 years were estimated to die from diabetes in 2017, which is equivalent to one death every eight seconds. This is higher than the combined number of deaths from infectious diseases including HIV/AIDS, tuberculosis and malaria. Diabetes accounted for 10.7% of global all-cause mortality among people aged 20-79 years. Grievance of the situation can be understood by the fact that theme of First National Ayurveda Day was “Prevention and control of Diabetes through Ayurveda”.

Since most ancient times Prameha is a well-known disease of affecting human beings. It is a syndrome, which includes clinical conditions involved in obesity, prediabetes, diabetes and metabolic syndrome. It is a disease of mutravahasrotas and includes obstinate urinary disorders with increased urinary flow, altered consistency, and composition. That is why the cardinal symptom of Prameha is “prabhoootavilmuratata” i.e. excretion of large quantities of turbid urine. It includes a number of metabolic disorders characterized by specific anomaly in urine, due to excretion of products of metabolism, which may/may not be normal constituents of urine. In various Samhitas, Prameha is classified as the basis of dominance of specific dosha and total 20 types of Prameha have been identified. Vagbhata noticeably mentioned that these 20 types of Prameha result due to specific pathological combination of dosha and dashya. That is why in each subtype peculiar type of urine is voided. As mentioned above, out of these 20 types Madhumeha holds close resemblance with Diabetes mellitus. Madhava and Charaka described some special characters of urine of Madhumeahaskhashaya (astringent) and madhura (sweet) rasa, pandu (pale/white) colour and raksha (dry) in texture.

Ayurveda has two goals i.e. to promote and preserve the health of healthy person and to eradicate disease in the ailing. For the fulfillment of first goal, knowledge of hitakara and ahitkaraaahara is important. Advocacy of specific diet in specific disease condition is a characteristic of holistic Ayurvedic approach. Those food articles which maintain the balanced condition of dhatu, i.e. keeps the individual healthy, maintains normal body functions; and balances the vitiated dhatu i.e. prevents diseases and repairs the abnormalities that arise in the body are known as hitkaraaahara. On the other hand, the food articles that vitiate normal dhatu are known as ahitkara aahara. The word pathya derives its origin from root word ‘Patha’ that literally means a way or channel. It is defined as the “diet plan which is not harmful to the channels of the body and is favorable to the mind or the regime which do not adversely affect the body and mind.” The importance of Pathyaahara, also known as wholesome diet is emphasized, by mentioning pathya and apathya in each and every disease condition. The significance of diet can be understood with the fact that it has been called as Mahabhaishajya (the super medicine) in Kashyapa Samhita. Further, Vaidyajeevanaam, an Ayurvedic text dedicated to dietetics quoted:

> “Pathye sati gadaartasyakimagamadhumeha
Pathyeasatigadartasyakimagamadhumeha.”

~ (VaidhyaJeevana: 1/10)
i.e. “If wholesome diet (pathya) is given there is no need for separate medicinal treatment (prophylactic nutrition) and if unwholesome diet (apathyā) is being used, no medicine can cure the disease”.

Hippocrates, father of modern medicine, too emphasized on the importance of food by saying: “Let food be thy medicine and medicine be thy food.” (~ Hippocrates 400 BC).

In this regard, Charakacharya has mentioned that the diet, which provides basic nutrition to the body, helps to maintain the healthy state of the body and prevents the occurrence of diseases, should be consumed 

Yogaratmakara described that etiology, drug treatment and pathya are three important factors which should be studied thoroughly before starting the treatment.

**NIDANA: (Etiology)** The causes of Prameha are summed up in the Table No: 1.1

<table>
<thead>
<tr>
<th>Aahara 12, 13</th>
<th>Vihara</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asyasa (greed of delicious and tangy food)</td>
<td>Swapnasaka, divasvapan i.e. excessive sleep during day &amp; night.</td>
</tr>
<tr>
<td>Excess consumption of dodhi (curd) and payansi (milk and its preparation)</td>
<td>Asaya and asyayami.e. laziness and lack of exercise</td>
</tr>
<tr>
<td>Intake of malas (meat of grama (domestic), anoopa (marshy) &amp; audaka (aquatic) animals.</td>
<td>Udvega (anxiety), shoka (grief), abhigghata (mental/physical trauma)</td>
</tr>
<tr>
<td>Intake of Gada-vaikrita (various preparations of jaggery e.g. sugar, khanda etc.).</td>
<td>Lack of personal hygiene and purification of body</td>
</tr>
<tr>
<td>Excessive use of navamapanama (new grains &amp; drinks)</td>
<td></td>
</tr>
<tr>
<td>Foods that have high calorific value and increase kapha</td>
<td></td>
</tr>
<tr>
<td>Intake of madhura (sweet), amla (sour), lavana (salty), snigdhha (unctuous), sheeta (cold), guru (heavy), picchhla (slimy), and shlaksna (smooth) aahara 14</td>
<td></td>
</tr>
</tbody>
</table>

**SPECIFIC CAUSES**

<table>
<thead>
<tr>
<th>Kaphaja Prameha Nidana 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive intake of newhayanaka (a kind of red rice), yavaka (chhotayaya), chinaka (fennel), uddalaka (type of Kodo millet), tikata (kind of reed or grass), mukunda (a kind of grain), mahuvarhi (large rice), pramodaka (kind of rice), sugandhaka (basmati rice)</td>
</tr>
<tr>
<td>Excessive use of fresh pulses like Haren (pea) and Mashi (wad/black gram) along with ghee.</td>
</tr>
<tr>
<td>Intake of mansa (meat of grama (domestic), anoopa (marshy) &amp; audaka (aquatic) animals.</td>
</tr>
<tr>
<td>Intake of chitil (sesame), palala (a kind of sweet made of sesame and sugar), payasa (milk and rice preparation), kshara (khichadi), vilepi (rice gruel), kekherikara (sugarcane or items prepared from sugarcane).</td>
</tr>
<tr>
<td>Intake of milk, alcoholic preparations. various curd preparations, liquid,</td>
</tr>
</tbody>
</table>

**Pitaja Prameha nidana** 16

| Excess intake of asha (hot), amla (sour), lavana (salty), kshara (alkaline) & katu (spicy) dravya. | Exposure to excessively hot sun and heat |
| Taking food before the digestion of previous meal (adhyathasana). | Excessive exertion and anger. |
| Use of inappropriately prepared food or intake of food that is liable to hamper the digestion. | |
| Intake of mutually contradictory food (vishamaaahara) | |

**Vataja Prameha nidana**

| Dhautkshayaavarna 17: Excessive use of material, which is predominantly kashaya (astringent), katu (spicy), tikta (pungent), ruksha (dry), laghu (light) and sheeta (cold). | Excessive indulgence in maithun (sexual activities), vyayam (exercise), pancharakna (excess biopurification), Jeguvidharana (suppression of natural urges), uparvas (fasting), abhigghata (trauma), aapasevana (sunbath), shoka (grief), raktasraav (bleeding), ratrijarjana (nocturnal awakening). |

**HitkaraAahara:** Food articles which are suitable to a patient and help in curing the disease are called Hitkaraaahara and those, which induce disease, are called Ahitkaraaahara. Pathyavesevana has a key role in the management of Madhumeha. Even in modern science diet and exercise are included in diabetes management. Charaka has also emphasized on the role of balanced diet in the management of Prameha 18.


Shukadhanaya: Yava (barley) are the best. Godhuma (wheat), jeernashali (old rice), sashtikshali (a type of rice which crops in 60 days), kodrava (P.scrobiculatum), shyamaka.

Shimbidihana: Mudga (V. radiate-Green gram), Chanaka (C. arietinum-Bengal gram), Kulatha (D. biflorus), Adhaki (C. cajan - Pigeon pea) etc.

ShakaVarga (Vegetables): All types of tikta (bitter vegetables) and kashayashaka (astringent) e.g. Karela (M.charantia-Bitter gourd), Methi (T.foenum-Fenugreek), Patola (V. luffa, Vietnamese gourd), Rasana (A. sativum-
Garlic), Udumbara (F.racemosa-Cluster Fig), Shigru (M. oleifera-drumstick) etc.

PhalaVarga (Fruits): Jambu (S.cumini-Black berry), Amalaki (P.emblica-Indian gooseberry), Kapititha (L.acidissima-Wood Apple, Curd Fruit), Tala phala (B.flabeller-Sugar palm), Khajura (F.sylvestris-Date Palm), Duidima (P.granatum-Pomegranate), Shringatuka (T.bispinosa-water chestnut), Tinduka (D.malabarica- Gaub Tree).

Mamsa Varga ( Flesh): Vishkiramamsa, Pratuda and Jangalamamsa like Hiranamamsa (Deer flesh), Shashakamamsa (Rabbit), Kapota (pigeon), Titira (francolin) etc.
TailaVarga: Sarshapataila (mustard oil) is best. Oil of Danti (B.montanum -wild croton), Ingudi (B.aegyptiaca-desert date), Atasi (Lustatissimum-flax) etc.

UdakaVarga: Sarodaka, Kashodaka, Madhudaka.
Kritannava: Auppa (cake of barley dipped in honey), Sakta (sattu), Yavadana (cooked barley), Vatyta (baati), Yusha (soup).

Bija (Seeds): Kamala (N. nucifera-lotus), Utpala (N.Stellata), Vansha (B. vulgaris-Bamboo) seeds.

Others: Madhu (Honey), Hingu (Honey), Saindhava (rock salt), Maricha (pepper), Lasuna (Garlic), Haridra (turmeric).

2. Discussion

Role of diet in etiology, treatment and prevention of Diabetes was mentioned for the first time in Ayurveda. Many studies in recent years have provided the evidence that more than 50% of the cases of Diabetes type 2 can be controlled only with the modification of diet. In modern medicine dietary/lifestyle modification is the first line of treatment in a diabetic patient followed by hypoglycemic drugs and ultimately insulin therapy. This shows the importance of hitkaraaahara in management of diabetes. Modern medicine recommends that 40-60% of total energy intake should be carbohydrates, however these should mostly be in the form of complex carbohydrates. In Ayurveda too complex carbohydrates like godhuma, jeernashali, sashitkshali, kodravaetc. are mentioned as ashitkaraaahara and ikshuwika (sugars, jaggery etc.) are advised to be avoided. Fibre rich diet mentioned in Ayurvedic texts like yava and shaka (vegetables e.g. methi, patola) are advised to madhumehi. This is further supported by modern researches. Fibres delay the absorption of macronutrients, provide a feeling of satiety, delay absorption and retard the breakdown of carbohydrates and thus maintain blood glucose. Fruits like Jambu, Amalaki, Kapititha, Tala phala are considered hitkara in Ayurveda which is akin to modern medicine. Recent studies have shown that the glycaemic index of Mudga, Chanaka, Kulatthha, Adhakis very low and hence, are considered hitkara in the patient of diabetes.

3. Conclusion

Ayurveda has the holistic approach in the management of diabetes. The vast literature of Ayurveda focuses on preservation of health as well as treatment of diseases. For the management of any disease hitkaraaahara plays a crucial role as it not only promotes health but also normalizes the vitiated dhatus and hence, acting as a preventing factor for the disease. Diabetes is a lifestyle disorder where sedentary habits, overeating, junk foods, sugar rich beverages etc. are the main causative factors. Similar nidana/causes are mentioned in Ayurveda. Further, looking deep into the recent studies on diet in diabetes have shown close resemblance with the hitkaraaahara mentioned in classics for the management of Madhumeha.

References


