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 mentioned under ashtamahagada by Charaka, Vagbhata, Sushruta and Gangadharana. 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 mutravahasrotus and includes obstinate urinary disorders with increased urinary flow, altered consistency, and composition. That is why the cardinal symptom of Prameha is “prabhootavitamutratu” 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 Madhumehatashakaya (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 ahitakaraaahara 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. Its 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 Pathyaaahara, also known as wholesome diet is emphasized, by mentioning pathya and apathyain each and every disease condition. The significance of diet can be understood with the fact that it has been called as Mahabhainshaja (the super medicine) in Kashyapa Samhita.

Further, Vaidhyajeecavam, an Ayurvedic text dedicated to dietetics quoted:

“Pathye sati gadaartasyakimashadhishevane Pathyeasatigadaartasyakimashadhishevane.”
~ (VaidhyaJeecavanam: 1/10)
i.e. “If wholesome diet (pathyā) 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. Yogaratnakara described that etiology, drug treatment and pathyā 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>Table 1.1: Causes of Prameha</th>
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<tbody>
<tr>
<td><strong>Common Causes</strong></td>
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<tr>
<td><strong>Aahara</strong>[^3]</td>
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<tr>
<td>Asyasukha (greed of delicious and tangy food)</td>
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<tr>
<td>Excess consumption of dodhi (curd) and payansi (milk and its preparation)</td>
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<tr>
<td>Intake of mansa (meat) of grama (domestic), anopa (marshy) &amp; audaka (aquatic) animals.</td>
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<td>Intake of Gada-vāikrita (various preparations of jaggery e.g. sugar, khanda etc.).</td>
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<td>Excessive use of navamapanapa (new grains &amp; drinks)</td>
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<tr>
<td>Foods that have high calorific value and increase kapha</td>
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<tr>
<td>Intake of madhura (sweet), amla (sour), lavana (salty), snigdha (unctuous), sheeta (cold), guru (heavy), picchhita (slimy), and shlaksna (smooth) aahara[^1][^4]</td>
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**SPECIFIC CAUSES**

**Kaphaja Prameha Nidana[^5]**

| Excessive intake of newhayanaka (a kind of red rice), yavaka (chhotayava), chinaka (fennel), uddalaka (type of Kodo millet), tikata (kind of reed or grass), muksanda (a kind of grain), mahavritti (large rice), pramodaka (kind of rice), sugandhaka (basmati rice) | Avoidance of udavartana (scrubbing of body) and physical exercise. |
| Excessive use of fresh pulses like Harenu (pea) and Masha (wheat/black gram) along with ghee. | Excessive indulgence in sleep, rest and sedentary habits. |
| Intake of mansa (meat) of grama (domestic), anopa (marshy) & audaka (aquatic) animals. | |
| Intake of ofūla (sesame), palala (a kind of sweet made of sesame and sugar), payasa (milk and rice preparation), krishara (khichadi), vilepi (rice gruel), ekshewikara (sugarcane or items prepared from sugarcane). | |
| Intake of milk, alcoholic preparations, various curd preparations, liquid, | |

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<td>Sweet intake of ushna (hot), amal (sour), lavana (salty), kshara (alkaline) &amp; katu (spicy) dravya.</td>
<td>Excessive indulgence in maithun (sexual activities), vyayam (exercise), panchakarma (excess biopurification), vegavīdhārana (suppression of natural urges), upavas (fasting), abhhigata (trauma), aapadevāna (sunbath), shoka (grief), raktaśraav (bleeding), ratrijāraṇa (nocturnal awakening).</td>
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<tr>
<td>Exposure to excessively hot sun and heat</td>
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Garlic), Udumbara (F. racemosa-Cluster Fig), Shigru (M. oleifera-drumstick) etc.

PhalaVarga (Fruits): Jambu (S. cumini-Black berry), Amalaki (P. emblica-Indian gooseberry), Kapittha (L. aciddissima-Wood Apple, Curd Fruit), Tala phala (B. flabelifler-Sugar palm), Kharjura (P. syylestris-Date Palm), Dadima (P. granatum-Pomegranate), Shringataka (T. bispinosa-water chestnut), Tinduka (D. malabarica- Gaub Tree).

Mamsa Varga (Flesh): Vishkiramamsa, Pratuda and Jangalamamsa like Hiranamsa (Deer flesh), Shashakamamsa (Rabbit), Kapota (pigeon), Titira (francolin) etc.

TailaVarga: Sarshapataila (mustard oil) is best. Oil of Dani (B. montanum -wild croton), Ingudi (B.aegytiaca-desert date), Atasi (L. usitatissimum-flax) etc.

UdakaVarga: Sarodaka, Kashodaka, Madhudaka.

KritannaVarga: Apapa (cake of barley dipped in honey), Sakta (sattu), Yavadona (cooked barley), Vatya (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 aahara and ikshuvikara 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, Kapittha, Tala phala are considered hitkara in Ayurveda which is akin to modern medicine. Recent studies have shown that the glycaemic index of Mudga, Chanka, Kualatta, 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


