

RESEARCH ARTICLE

A REVIEW ARTICLE ON MADHUMEHA (TYPE2 DIABETES MELLITUS).

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Manuscript Info Abstract

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Key words:-Madhumeha, Ama, Agni, Meda, Ojas. Madhumeha is one of the four types of Vatika Prameha characterised by passage of excessive quantity of urine having quality similar to Madhu (Polyurea & Glycosuria) along with sweetness of whole body (Hyperglycemia). While describing the pathogenesis of Madhumeha the Ayurvedic texts have explained the involvement of Ama (oxidative free radicals), Agni (digestive fire), Meda (adipose tissue) and Ojas (immunity), which plays a vital role in the development and progression of Madhumeha and its complication.

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Introduction:-

Madhumeha(**Madhu+Meha**)-the disease condition in which 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 ²Dhatukshya 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.

³Diabetes Mellitus is defined as a heterogeneous metabolic disorder characterized by common feature of chronic hyperglycemia with disturbance of carbohydrate, fat and protein metabolism. Ayurvedic remedies for Madhumeha (Diabetes Mellitus) are the oldest among all the available therapies. Prameha are a list of urinary disorders, especially characterized by profuse urination with several abnormal qualities due to imbalance of Doshas.

Aims and Objective:-

- 1. To access Madhumeha is a metabolic as well as urinary disorder.
- 2. To access clinical presentation of Madhumeha.
- 3. To access the principle management of Madhumeha.
- 4. To access the importance of life-style modification in Madhumeha.

Material and Method:-

1. In Classical Ayurvedic literature, the Madhumeha's described form of etiology, causative factor, sign & symptom and treatment elaborately in Brihattrai and Bhavaprakash.

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- 2. In this article review some Ayurvedic text, modern books, PUBMED and Research article.
- 3. Conceptual and critical studies on Madhumeha (Type-II Diabetes Mellitus).

Nidana (Etiology)-

According to Acharya Charka-

Aasya sukham.....

- 1. Indulgence in sitting on soft cushions for long periods (thus avoiding physical activity)
- 2. Sleeping for long hours, use of curds, flesh of animals of domestic, aquatic or of marshy places,
- 3. Milk (and its preparations),
- 4. Fresh grains, fresh water, puddings made of jaggery/sugar (and its other products) and all other similar factors which bring about increase of Kapha in the body are the causes for Prameha.

Samprapti (Pathogenesis) -

According to Acharya charka: Medashch.....

Samprapti of Madhumeha is best described by Acharya Charaka. He said Madhumeha can originate in two ways-

- 1. By the aggravation of Vata caused by Dhatukshya.
- 2. By the obstruction of Vata caused by Doshas covering it.
- 3. Madhumeha which is caused by Dhatukshya manifests as thin and asthenic individual due to loss of Oja. All this is Ojakshaya (imbalance in Ojas).
- 4. In Margavaranjanya Madhumeha the vitiated Kapha and Meda obstruct the passage of Vata. The obstructed Vata is vitiated again and carries Ojas to Basti thus manifests Madhumeha.

Poorvarupa (Premonitory Symptoms):

There premonitory symptom are-

Feeling of burning in the palms and soles, body (skin) becoming slimy, 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 of the head adhering to one another and more growth of the hairs and nails.

Roopa (Clinical Features) -

The general feature of the Diabetes Mellitus are-

- 1. Passage of a profuse and turbid urine
- 2. The urine becomes like honey
- 3. The entire body becomes very sweet

Aacharya Sushruta also says that ⁸Sahajameha Rogi is usually Krisha (thin built) while Apathyanimittaja Rogi is usually Sthula (Obese).

Classification of Diabetes Mellitus:-

Type- 1 Diabetes Mellitus (IDDM) -

Type 1 Diabetes, formerly called Juvenile-onset Diabetes is usually diagnosed in children, teenagers and young adults. Type 1 Diabetes may develop in adults. This is an aAutoimmune disease causing destruction of Beta-cells of Pancreas which results in an absolute Insulinopaenia.

Type- 2 Diabetes Mellitus (NIDDM) -

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 hyperglycemia 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.

Classification of Prameha:

- 1. Kaphaj Prameha: 10
- 2. Pittaj Prameha: 6

3. Vataj Prameha: 4

Other types of diabetes-

A number of other types of Diabetes exist which develop due to:

- 1. Genetic defects of the Beta-cell function
- 2. Genetic defects in Insulin action
- 3. Disease of Exocrine Pancreas
- 4. Endocrinopathies
- 5. Infections
- 6. Rare autoimmune disorders
- 7. Genetic syndromes associated with Diabetes

Criteria for the diagnosis of DM:-Fasting:-

- 1. Normal- < 110 mg/dl
- 2. Impaired fasting glucose- > 110 and < 126 mg/dl
- 3. Diabetes mellitus- $\geq 126 \text{ mg/dl}$

2 Hours Post Load -

- 1. Normal- < 140 mg/dl
- 2. Impaired glucose tolerance- > 140 and <200 mg/dl
- 3. Diabetes Mellitus- > 200 mg/dl with symptoms

Investigations:-

- 1. O.G.T.T. (Oral Glucose Tolerance Test)
- 2. Lipid Profile
- 3. Liver Biochemistry
- 4. Glycosylated Hemoglobin (GHb)
- 5. Blood glucose-Random, Fasting, Postprandial
- 6. Urine tests-Urine testing for Glucose is still widely used.
- 7. Protein urea is a reflection of the development of Renal Complication.

Upadrava (Complications):-

Daha, Trishna, Hridadaha (Sour belching), Moorcha, Anidra, Kampa, Krisha (emaciation), Swash (increased breathing), too much elimination of urine (prabhutmootrata), improper digestion (Ajeerna), Vamana. Troubled by appearance of deep seated Pidikas (Eruption), Feeling of heaviness of the body (Gaatraguruta).

- 1. Metabolic complication- Keto-acidosis, Hyper-osmolar 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, Cerebro-Vascular disease and Peripheral vascular disease.
- 4. Cataract, Diabetic ulcer (Diabetic foot), Nephropathy, Retinopathy, Dermopathy, Neuropathy- Polyneuropathy, Autonomic Neuropathy.
- 5. Complications of therapy- Hypoglycemia, Insulin resistance, Insulin allergy, Lipodystrophy, Lactic acidosis, Depression of bone marrow.
- 6. Maternal and fetal disorder in G.D.M.

Prognosis (¹¹Sadhya-Asadhyata) Incurability:-

- 1. Kaphaj Prameha: Sadhya (Samkriyatvaat)
- 2. Pittaj Prameha: Yaapya (Vishamkriyatvaat)
- 3. Vataj Prameha: Aasadhya (Maha-aatyaikatvaat)
- 4. 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.

Chikitsa (Treatment)-

In general, Krisha Pramehi which is correlated with Type 1 Diabetes Mellitus patients are advised to have Bringhan medication (Anabolic) as well as a diet which increase Dhatus in the body.

In Apathyanimittaja Rogi which is co-related with Type 2 Diabetes, Obese Diabetic patients with optimal body strength having intense increase of Doshas, Samshodhan (purification) of the body advocated.

- 1. Snehana
- 2. Shodhana
- 3. Virechana
- 4. Basti (Asthapana/Niruha)
- 5. Shamana
- 6. Exercise and life style modification & following regular regimen of exercise, Yogasana, Pranayama and regular food & sleep, following Ritucharya & Dincharya.

Ter bar medications helpful in Wadnumena (Type2 Diabetes Weintus)-	
Parijata Kashyam	
Vaijayanti Kashyam	
Nimba Kashyam	
Chitrak Kashyam	
Khadira Kashyam	
Patha-Aguru-Haridra Kashyam	
Haridra-Daruharidra Kashyam	
Saptaparna Kashyam	
Durva-Shaival-Palav-Hatha-Karanj-Kasheru Kashyam	
Kakubha-Chandana Kashyam	
Salasaradi Gana Kashyam, Ashvatha Twak Kashyam	
Aaragvadha Kashyam	
Nayagrodhadi Gana Kashyam	
Triphala Kashyam	
Manjistha-Chandan Kashyam	
Guduchi-Tindukasthi-Gambhari-Kharjura Kashyam	
Triphala-Aaragvadh-Mridivika Kashyam	
With Madhu	
Kustha-Kutaj-Patha-Hingu-Katurohini kalkam with Guduchi-Chitrak Kashyam	
Agnimantha OR Shinshapa Kashyam	
Khadira-Kramuk Kashyam	
Tinduk-Shirish-Kapitha-Palasha-Patha-Murva-Duhsparsha Kashyam with Madhu	
Hasti-Ashva-Shukar-Khara-Ustra Asthi Ksharodaka	
Shilajeet,SwarnaMakshik,Rajat Makshik	

Herbal medications helpful in Madhumeha (Type2 Diabetes Mellitus)-

Single Herbal drugs used in Madhumeha-

- 1. Aamlaki(Embelica officinalis)
- 2. Meshashringi(Gymnea sylvestre)
- 3. Karvellaka(Momordica charantia)
- 4. Methika(Trigonella foenum-graecum)
- 5. Shilajeet(Black Bitumen)
- 6. Vijaysara(Pterocarpus marsupium)
- 7. Jambu(Syzyium cumini)
- 8. Tejpatra(Cinnamomum tamala)
- 9. Twak(Cinnamomum zeylanicum)
- 10. Guduchi(Tinospora cordifolia)
- 11. Bimbi(Coccinia indica)
- 12. Khadirasara(Acacia catechu)
- 13. Katphala(Myrica esculenta)
- 14. Kakamachi(Solanum nigrum)
- 15. Devdaru(Cedrus deodara)

Compound formulations used in Madhumeha-

- 1. Chanderprabha Vati
- 2. Shilajatvadi Vati
- 3. Mehari Vati
- 4. Mammajakghan Vati
- 5. Saptacakraghan Vati
- 6. Nishamalaki Churna
- 7. Phalatikadi Kwatha
- 8. Katakhadiradi Kwatha
- 9. Trivang Bhasma
- 10. Vanga Bhasma
- 11. Vasant Kusumakar Rasa

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