



A STUDY ON THE PROSPECTS OF AYURVEDIC MANAGEMENT OF DIABETES MELLITUS

Yogesh Singh Kushwaha¹, Ravi Shankar Sharma² and Singhai Swapnil³

¹Panchakarma, Faculty of Ayurveda, Uttarakhand Ayurved University, Harrawala, Dehradun

²Emergency Medical Officer, Faculty of Ayurved, Uttarakhand Ayurved University, Harrawala, Dehradun

³Department of Kayachikitsa, Uttarakhand Ayurved University, Gurukul Campus, Haridwar

ARTICLE INFO

Article History:

Received 15th May, 2017

Received in revised form 17th

June, 2017 Accepted 25th July, 2017

Published online 28th August, 2017

Key words:

Diabetes mellitus, Madhumeha,
Vatik Prameha

ABSTRACT

Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia due to absolute or relative deficiency of insulin secretion, insulin action or both. In modern medical science, symptomatology of Madhumeha is equivalent to the features of Diabetes mellitus. It is caused because of disrupted carbohydrate and Fat metabolism. Sedentary life, faulty foods and lack of exercise precipitate the disease, various metabolic changes involved in the pathogenesis here genetically inheritance is one of the major etiological factor.

Though, the discovery of insulin and other hypoglycemic drugs has a great achievement of modern medical science, but the hazardous side effects of drugs after long term use are incurable and hence an ideal therapy is still obscure. Ayurveda can provide better cure for the disease not only to achieve a strict glyceemic control but also to treat the root cause of the disease. The sequential administration of Shodhana therapy and certain Shaman yogas are quite beneficial. Ayurvedic medicines are cost effective, easily available and safe for long term use.

Copyright©2017 *Yogesh Singh Kushwaha et al.* This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Diabetes mellitus is a group of metabolic disease characterized by hyperglycemia resulting from defects in insulin secretion, insulin action or both. The chronic hyperglycemia of diabetes is associated with long term damage, dysfunction and failure of various organs, especially the eyes, kidneys, nerves, heart and blood vessels¹.

It has been described as an epidemic, but predications for future increases in prevalence, especially in developing countries point to a major health care crisis for the future. Current prevalence rates are 10-18% in the urban Indian adult population and there is evidence that the prevalence of type 2 diabetes is increasing in rural population also. The prevalence of diabetes for all age-groups worldwide was estimated to be 2.8 % in 2000 and 4.4 % in 2030. the total number of people with diabetes is projected to rise from 171 million in 2000 to 366 millions in 2030. The prevalence rate of diabetes is higher in males than in females².

The migration of populations to more urban settings, as well as increasing affluence in some countries contributes for the establishment of diabetes. Foods highly rich in carbohydrate and fat, sedentary life style, stress and strain are triggering

factors for type 2 DM. Other major environmental factors precipitating type 2 diabetes include trauma, major illness and drugs such as, thiazide and oral contraceptives³.

The classic symptoms of diabetes are polyuria, polydipsia and unexplained weight loss. These are sometimes associated with polyphagia and blurred vision. Pruritus vulvae or balanitis is a common presenting symptom since the external genitalia are especially prone to infection by fungi which flourish on skin and mucous membranes contaminated by glucose. Acute, life threatening consequence of diabetes are hyperglycemia with ketoacidosis or the nonketotic hyperosmolar syndrome. Long term complications of diabetes include retinopathy with potential loss of vision, nephropathy leading to renal failure, peripheral neuropathy with risk of foot ulcers, amputation and charcot joints and autonomic neuropathy causing gastro intestinal, genitourinary and cardiovascular symptoms and sexual dysfunction.

The goals of therapy for type 1 or type 2 diabetes mellitus are eliminate symptoms related to hyperglycemia, reduction or elimination of long term microvascular, macrovascular complications of DM and allow the patient to achieve as normal a life style as possible.

So the management can be planned as education of patient about diabetes mellitus, nutrition and exercise, monitoring the level of glyceemic control, assessment of glyceemic control, oral hypoglycemic agents and insulin therapy.

*Corresponding author: **Yogesh Singh Kushwaha**

Panchakarma, Faculty of Ayurveda, Uttarakhand Ayurved University, Harrawala, Dehradun

Concept of Diabetes Mellitus in Ayurveda

Madhumeha is a clinical entity in which patient passes large quantity of urine similar to Madhu having kashaya and Madhura taste, Ruksha texture and Honey like colour and thus body attains sweetness.⁴ Acharya Sushruta narrated the term Kshaudrameha, in place of Madhumeha. The Kshaudra is one of the varieties of Madhu. So it is clear to us, that Kshaudrameha resembles madhumeha.⁵

Madhumeha is the disease of having merely metabolic derangement and genetic predisposition related with each constituent of the body. It is a subtype of Vataja Prameha having more prevalence in the society. The word Madhumeha consists of two words - Madhu and Meha. The word Madhu used in various contexts like Pushparasa, Makarandah, Makshikam, Madhyam, Ksiram, Jalam, Madhurarasa. The Meha word mainly related with the excretions through urine.

So the definition is the clinical entity in which patient voids the urine having concordance with Madhu i.e. of Kasaya and Madhura taste, ruksa (dry) texture and honey like colour. Body acquires sweetness called Madhumeha.

Susruta asserted that when all the Pramehas ill-treated or neglected get converted into Madhumeha and specially emphasized that the disease Prameha along with Pidaka should termed as Madhumeha.

Synonyms

Ojomeha: The depletion of oja through the urine along with changing its taste and texture by vitiated vata.

Ksaudrameha: Close resemblance with madhu.

Paushpameha: Paushparas is again resembles with Madhu.

Etiology

The person indulging in food substances having guru, snigdha qualities, excessive indulgence of Amla-lavana rasa substances, navanna pana, excessive sleep, sitting in a same place for longer duration, avoiding exercise, thinking process and also not performing the shodhana process in a proper time.

All are leads to the depletion of Dhatus. The etiological factors described are mainly vitiates Kapha and Pitta. These vitiated Kapha and Pitta with Meda and Mamsa obstructs the normal path of vata (avarana) lead to vitiation of vata it in turns leads to Madhumeha.

Charaka emphasized the etiological factors as follows

Nidanvishesha: These are the typical Nidanans. Causes are excessive quantity of deranged Shlesma, Meda and Mutra.

Dosavishesha: The nidana / etiological factors causes typical characteristic of Kapha i.e. more liquidity with excess quantity.

Dusyavishesha: Etiological factors mainly affects the normal physiological qualities of dhatus and transfer them into abnormal texture.

Acharya Sushruta has narrated that untreated prameha in its initial stage, gets converted into Madhumeha & becomes incurable.

According to Acharya vagbhatta, the urine of madhumehi will be simulating with that of madhu. Two type of vata vitiation

has been mentioned, one is due to dhatukshaya and second due to margavarana.⁶

Purvarupa: In ancient Ayurvedic treatises common premonitory symptoms are described but special premonitory symptoms of Madhumeha are not mentioned.

Rupa⁷⁻¹³

Signs	Symptoms
1. Jatilibhava Keseshu	1. Asyamadhurya
2. Satapipilikasusarimutrabhi Saranam.	2. Karadaha
3. Visra Sarirgandha	3. Padadaha
4. Svedavrdhi	4. Karasuptata
5. Ghanangata	5. Padasuptata
6. Kesanakhativrdhi	6. Mukakanthatalu Sosa
7. Angasaithilya	7. Pipasa
8. Snigdhatrata	8. Alasya
9. Picchilagrata	9. Angasuptata
10. Suklamutrata	10. Paridaha
11. Jivhadantamala Vrudhi	11. Nidra & Tandra Sarvakalam
12. Kayachidresuupadeha	12. Sitapriyatvam
13. Mutreca Mutradoshan	13. Hratanetravivhasravaneshuupadeha

Apart from above premonitory symptoms and signs only few of them are the cardinal sign and symptoms of Madhumeha. These are Pipasa, Madhuramutrata, Asyamadhurya, Angadaha and Mutre Mutradoshan.

General Symptoms¹⁴⁻¹⁵

Urine Characteristics: Kasaya and Madhura taste, Panduta in colour and of Ruksha Quality. The natural madhura rasa of oja is replaced by Kasaya rasa in Basti.

Prabhutamutrata: Patient voids urine more in quantity. This excess urine quantity is because of liquification of the dusyas and their amalgamation.

Avilamutrata: Patient voids urine having hazy consistency or having turbidity. It is because of the nexus between mutra, dusya and dosa.

Picchila mutrata: Charaka mentioned this character of urine specially at the time of diagnosis of the prameha either, Anilatmaka or Kaphasambhava.

The body of patient becomes Madhura i.e. Sweet.

Psychophysiological manifestation: Madhumehi prefer to stand still than walking, sitting than standing, lying down than sitting and sleeping than lying down. It is mainly due to Alasya (indolence).

In Cikitsasthana Susruta before profounding the treatment of Prameha, asserted two types of prameha along with their features as follows:

Sahaja Pramehi: Kruasa (Asthenic)

- Ruksa (dry body)
- Alpashi (consumes less food)
- Bhrsa Pipasa (Excessive thirst)
- Parisaranshila (restless always want to wonder)

Apathyanimitaja: Sthula (obese)

- Bahuashi (consumes excessive food)
- Snigdha (unctous body texture)
- Shayyasanswapnasheela (like to sit down and sleep always) Kasypa also narrated symptoms like

Gaurava (Heaviness in the body), Badhata (tightness) and Jadata (Steadiness, laziness).

Pathogenesis of Madhumeha

Sahaja prameha: Sushruta mentioned that Sahaja prameha precipitate because of defect in beej same thing explained by Charaka that Sahaja Madhumeha is a Kulaja Vikara, because of the defect in beej (Sperm / ovum). Here the patient is prone to dhatukshaya.

Madhumeha due to dhatukshaya: Charaka explained the pathogenesis in Nidana Sthana that, due to specific etiological factors provoked vata draws out the vital dhatus and carries them towards basti resulting into madhumeha. Here the provocation of Vata is because of its own etiological factors causes diminution of dhatus so called Sampraptivishita Anilatmaka Madhumeha. Here in this pathogenesis genetic predisposition in that patient make him prone to madhumeha (Tathavidhasarire).

Madhumeha due to Sudha vata: Charaka enumerated that due to depletion of Kapha and Pitta vata get aggravated and causes the excretion of dhatus through urine resulting into madhumeha.

Avaranjanya Madhumeha: Due to excessive indulgence of heavy, unctuous, salty and sour diet, avoidance of worry, exercise and purificative measures Kapha and pitta get provoked and vitiate meda and mamsa. All are in excess quantity. They in turn cause obstruction to the normal pathway of vata. This obstructed Vata get aggravated and draws out the apara oja from all over the body and carries it towards basti resulting Madhumeha. One thing to be very clear here that the provocation of Vata is precipitated because of the kapha pittakar etiological factors. Here mainly Vyan and Apan get aggravated.

Kalaprabhavaja Madhumeha: When all types of prameha if ignored or ill treated. They get terminate into madhumeha. This is further progression of kaphaja and pittaja prameha or complication stage of the disease.

Samprapti Ghatak

Dosha	-Tirdosha
Dushyas	-Rasa, Rakta, Mansa, Meda, Majja, Vasa, Lasika, Oja, Shukra, Ambu
Strotas	-Medovaha, Mutravaha, Udakavaha
Strotodusti	-Sanga
Agni	-Dhatwagnimandya
Ama	-Dhatugata
Udbhava	-Amashaya
Swabhava	-Chikari

Prognostic criterias for Madhumeha

Krichasadhya (Difficult to treat): Madhumeha resulted because of Avaranjanya pathogenesis is difficult to treat i.e. Krichasadhya. Here the provocation of Vata results, but the etiological factors mainly related to the Kapha and Meda.

Asadhya (Incurable): Vataja prameha is incurable because there is involvement of vital Dhatus like Majja, Oja in the pathogenesis and the treatment modalities quite apposite to dosa and Dusya. Madhumeha is because of the Beejadosha i.e. genetic predisposition and in association with complication i.e. Pidaka is incurable.

Management

Madhumeha is the disease of systemic consideration involving various body constituents and strotas, affecting the normal physiology of various body organs, thus to profound the treatment modalities. It is prime concern to think about each and every factor involved in the pathogenesis, stage of the disease and associated complications in regard to provide better management to the patient of madhumeha.

Nidanaparivarjanam - Avoidance of the etiological factors is the prime treatment.

Shodhan Therapy-Considering Sthula & krisha pramehi, Sanshodhan Chikitsa should be administered only to the Sthula and Balvan Pramehi.

- Sarshapa, Nimba, Danti, Bibhitak & Karanja siddha Taila or Trikantakadya Sneha (according to dosha predominance should be used for Abhyantara Snehana).
- Malashodhan yogas from Kalpasthana used for Shodhan chikitsa. Both Pitta & kapha are eliminated through shodhana.
- Anuvasana & Asthapana Basti chikitsas are able enough to control the provocation of vata. Anuvasana with medicated oils & ghrilas are prescribed in madhumeha.

Samsaman Chikitsa - It includes mainly deepana (appetizers), Pachana, (enhancing digestion), Kshut (Hunger maintenance), Trit (Maintenance of thirst), Vyayama (Exercise), Atapa (Having exposed to sunlight) and Maruta (Exposing oneself to wind).

Different tarpana upakramas are used in vatika mehas for increasing the strength of the patient. Kashaya yogas should be enriched with sneha and given to vatika mehas.

Shilajit should be taken after triturating with Salsaradi gana kwatha. After its digestion patient should take Jangalamamsarasayukta Anna.

Compound Preparations Used In Prameha

Swarasa: Amalaki, Haridra, Nimbapatra, Bilwapatra, Guduchi

Kwatha: Vidangadi, Phalatrikadi, Mustadi, Manjishthadi, Pathadi

Churna: Triphaladi, Mustadi, Gokshuradi, Arkadi

Gutika: Chandraprabha, Indravati, Pramehantak Vati

Gugglu: Gokshuradi Guggul

Modaka: Kastur Modaka

Avleha: kushavleha, Bangavleha

Paka: Pugapaka, Ashwagandhadi paka, Draksha Paka.

Asava Arishta: Lodhrasava, Dantyasava, Madhukasava, Devdarvyadiarishta, Lodhrarishta.

Ghrila: Dhanvantar ghrila, Trikantakadi ghrila, Dadimadi ghrila, Shalmali ghrila.

Rasaushadhi: Vasant kusumakar Rasa, Mehamudgar Rasa, Brihat Bangeshwar Rasa, Prameha gajkesri Rasa, Tribanga Bhasma, Vasant tilaka Rasa.

Pathya-apathya

Pathya

Aahara

- **Shook Dhanya** : Jeerna Shali, Shashtika, Kodrava, Yava, Godhuma, Uddalaka, Shyamaka
- **Shimbi Dhanya** : Chanaka, Adhaki, Kulattha, Mudga
- **Shaka Varga** : Predominance of tikta-kashaya rasa, Patola, Karvellaka, Shigru
- **Phala Varga** : Jambu, Dadima, Shringataka, Amalaki, Kapittha, Tinduka, Kharjura, Kalinga, Navina Mocha.
- **Mansa Varga** : Vishkira mansa, Pratuda, Jangala mansa
- **Taila Varga** : Danti, Ingudi, Sarshapa, Atasi
- **Udaka Varga** : Sarodaka, Kushodaka, Madhudaka
- **Kritanna Varga** : Apupa, Saktu, Yavodana, Vatya, Yusha
- **Others** : Madhu, Hingu, Saindhava, Maricha, Lasuna

Vihara: To have walks, travelling on elephants, horses and different plays, different form of martial arts, roaming in different places without chappal and umbrella.

Apathya

Aahara: Jala, Milk, Ghee, Oils, Curd, Sugar, Different types of rice preparations, anupa, gramya and audaka mamsa, Ikshurasa, Pishtanna, Navanna.

Vihara: Eksthana asana, Divaswapa, Dhoompana, Sweda, Raktamoksha, Mutravega dharana.¹⁶

DISCUSSION

Diabetes mellitus is a common chronic metabolic disorder prevalent all over the world. It is a giant disease considered as one of the arch enemy of the mankind. The mortality rate due to Diabetes mellitus is very high and is ranked fifth amongst the ten major causes of death in southern part of India.

The disease Diabetes mellitus is caused because of disrupted carbohydrate and Fat metabolism. Sedentary life, faulty foods and lack of exercise precipitate the disease, various metabolic changes involved in the pathogenesis here genetically inheritance is one of the major etiological factor.¹⁷

The emotional and social impact of diabetes and the demands of therapy may cause significant psychosocial dysfunction in patients. The introduction of oral hypoglycemic drugs in modern therapeutics initially appeared a breakthrough in the treatment of Diabetes mellitus but subsequently it was experienced that most of the hypoglycemic drugs were inadequately effective and was associated with many major side effects. Ayurveda can provide better cure for the disease.

Madhumeha is the disorder mainly Tridosha classics emphasized its Pathophysiology by two ways either Dhatukshayaja or Avaranjanya. Though pathogenesis due to Dhatukshayaja leads to incurability and Avaranjanya can be disrupted. Here in the pathogenesis etiological factors mainly vitiate Kapha, Pitta and Meda. They in turn obstruct the path of Vata. Obstruction to the path of Vata leads to its aggravation causes severe depletion of vital dhatu. Oja carried out towards Basti. Along with this, vitiation of various body elements like Meda, Mamsa, Kleda, Vasa and Lasika occurs which causes various symptoms and signs. Medadosha were also manifested as the disease progresses.

The primary aim of treatment is stated that in Sthula and Balvana pramehi, Sanshodhan Chikitsa should be administered. Abhyantara Snehana should be used according to dosha predominance. Malashodhan yogas can be used for Shodhan chikitsa. Anuvasana and Asthapana Basti chikitsas

are able enough to control the provocation of vata. Shamana chikitsa mainly includes deepana, Pachana, Kshut, Trit, Vyayama, Atapa and Maruta sevana.

Different tarpana upakramas and Shilajit are used in vatika mehas for providing strength to the patient. Kashaya yogas should be enriched with sneha and given to vatika mehas. Vasant kusumakar Rasa, Mehamudgar Rasa, Brihat Bangeshwar Rasa, Prameha gajkesri Rasa, Tribanga Bhasma, Vasant tilaka Rasa are useful for Diabetes mellitus.

CONCLUSION

It can be concluded that foods highly rich in carbohydrate and fat, sedentary life style, stress, strain, trauma, major illness and some drugs are triggering factors of this disease. Thus the approach of Ayurveda is essentially preventive and the drugs can be provided enduring and enhanced cure for the disease.

References

1. American Diabetes Association, Diagnosis and classification of Diabetes mellitus, *Diabetes care*, 2009 Jan; 32(Suppl1):S62-S67, doi: 10.2337/dc09-S062.
2. Wild S, Roglic G, Green A, Sicree R, King H., Global prevalence of diabetes: estimates for the year 2000 and projections for 2030, *Diabetes care*, 2004 May; 27(5):1047-53.
3. Dereje Abebe et. al., Module, Diabetes mellitus, For the Ethiopian Health Center Team, Debu University, 2005, 16.
4. Agnivesha, Charak Samhita commentary by Kashi Nath Shastri and Gorakha Nath Chaturvedi, Chaukhamba Bharti Academy, Varanasi.
5. Sushruta, Sushrut Samhita with Nibandha Samgraha Vyakhya by Dalhana, Edited by Yadavji Trikamji Acharya, Chaukhamba Orientalia, Varanasi.
6. Acharya Priyavata Sharma, Astang Sangraha, Chaukhamba Orientalia, Varanasi.
7. Chakrapanni Dutta, Ayurveda Deepika commentary on Charaka Samhita, Edited by Vaidya Yadavji Trikamji Chaukhamba Surbharti Prakashan, Varanasi.
8. Agnivesh, Charak Samhita commentary by Brahma Nand Tripathi, Chaukhamba Surbharti Sansthan, Varanasi.
9. Sushruta, Sushruta Samhita Hindi translation by Dr. Anant Ram Shastri, Chaukhamba Surbharti Prakashan, Varanasi.
10. Bhavprakash by Bhavmishra, Vidyotini commentary, Fifth edition, Chaukhamba Sanskrit Sansthan, Varanasi.
11. Yogratnakar, Hindi commentary by Laxmipati Shastri, Third Edition, 1983, Chaukhamba Sanskrit Sansthan, Varanasi.
12. Madhava, Madhava Nidan with Madhukosha Vyakhya by Vijayarakhshita and Sri Kanta Dutta by Sudarshan Shastri, Chaukhambha Sanskrit Sansthan, Varanasi.
13. Astanga Hridaya with Arundatta 'Sarvangasundari' and Hemadri's 'Ayurveda Rasayana' commentaries edited by Vd. Harishankar Paradkara, Chaukhambha Press, Varanasi.
14. Davidson's Principles and Practice of Medicine, 18th edition.
15. Harrison's Principles of Internal Medicine, 15th edition.

16. Dr. Jain Sapan *et. al*, A conceptual study of Ayurvedic management of Diabetes mellitus, WJPPS, Vol.6, Issue 1, 411-418.

17. J. Larry Durstine *et.al*, Pollock's Text book of cardiovascular diseases and rehabilitation, Human Kinetics, 3rd edition 1995, 202.

How to cite this article:

Yogesh Singh Kushwaha *et al* (2017) 'A Study on the Prospects of Ayurvedic Management of Diabetes Mellitus', *International Journal of Current Advanced Research*, 06(08), pp. 5035-5039.

DOI: <http://dx.doi.org/10.24327/ijcar.2017.5039.0640>
