

AYURVEDIC MANAGEMENT OF MADHUMEHA (TYPE-II DIABETES MELLITUS)
AND ITS COMPLICATIONS – A REVIEW ARTICLEDr. Deepika Gupta^{*1}, Dr. Rajesh Agrahari², Dr. Kamal Sachdev³ and Dr. Richa Garg⁴¹MD Scholar, Post Graduate Department of Kayachikitsa, State Ayurvedic College and Hospital, Faculty of Ayurveda, Lucknow University, Lucknow, Uttar Pradesh, India.²Rajesh Kumar Agrahari PG Scholar Department of Shalya Tantra, Dr. Sarvapalli Radhakrishnan Rajasthan Ayurved University Nagaur highway Road, Kadwad, Jodhpur Rajasthan -342037, India.³MD (Ay.), Reader and HOD, Post Graduate Department of Kayachikitsa, State Ayurvedic College and Hospital, Faculty of Ayurveda, Lucknow University, Lucknow, Uttar Pradesh, India.⁴MD (Ay.), Lecturer, Post Graduate Department of Kayachikitsa, State Ayurvedic College and Hospital, Faculty of Ayurveda, Lucknow University, Lucknow, Uttar Pradesh, India.***Corresponding Author: Dr. Deepika Gupta**

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ABSTRACT

In Ayurvedic literature 20 types of *Prameha* are described which are in general characterized by production of excess amount of urine (Prabhootmutrata / **polyuria**) and increased frequency of micturation Baram-baram mehati. Any of the *prameha* when left untreated is converted into *Madhumeha* and patient passes large amount of sweet urine as *madhu* (**glucosuria**). According to above features *Madhumeha* is correlated with Diabetes Mellitus in allied sciences. Type II Diabetes Mellitus is a metabolic disorder characterized by persistent **hyperglycemia** due to less production of insulin and increased resistance of insulin receptors (due to avaran of insulin receptors by meda dhatu). The persistent hyperglycemia, hyperlipidemia and hypercholesterolemia Bahu-abadha meda in long term causes non-enzymatic glycosylation of vascular endothelium and also causes development of atherosclerosis in vessels which helps in development of different complications of diabetes mellitus, such as- **Microvascular Complications** which includes Retinopathy, Neuropathy, Nephropathy and **Macrovascular Complications** which includes Coronary Artery Disease, Decreased Cerebral Circulation, Peripheral Vascular Disease (s/a- Diabetic Foot). The best way to prevent Diabetes Mellitus is *Nidanaparivarjana*, *Pathyapathya palana* and *Sadvrita Palana*. If Diabetes Mellitus has already developed then its complications should be prevented by using *Madhumeha-har dravyas* to control blood sugar level, hyperlipidemia, hypercholesterolemia and complications related with kidney, eyes, nerves, etc. Once complication develops they should be treated by above measures and by using specific treatment s/a- *Netra Kriyakalpa* for retinopathy, *Prachalan*, *Sodhan* and *Ropan Karrna* and *Prameh Pidika Nasak Chikitsa* for *Prameha Pidika* and diabetic foot ulcer etc. Control of associated problems s/a- hypertension is also important.

KEYWORDS: *Nidanaparivarjana*, *Pathyapathya*, *Madhumeha-har Ausadh*, *Rasayan*, *Netra Kriyakalpa*, *Prameh Pidika Nasak Chikitsa*, etc.**INTRODUCTION**

In *Ayurvedic* literature 20 types of *Prameha*^[1] are described which are in general characterized by production of excess amount of urine Prabhootmutrata^[2] and increased frequency of micturation Baram-baram mehati. Any of the twenty *Prameha* when left untreated is converted into *Madhumeha* (diabetes Mellitus)^[3] and patient passes large amount of sweet urine as *madhu*^[4] (glycosuria).

Type II Diabetes Mellitus is a chronic metabolic disorder characterized by persistent hyperglycemia due to less

production of insulin and increased resistance of insulin receptors (due to avaran of insulin receptors by meda dhatu) due to which glucose do not enter the cell effectively and remain in blood in high concentration. Diabetic patients present initially with polyurea (glycosuria), polydipsia and polyphagia. Due to above features DM is correlated with *Madhumeha* in Ayurveda in which patient passes large amount of sweet urine as *madhu* (glycosuria) and craves for excess food due to highly illuminated *jatharagni* by *medavrita vata dosha*.

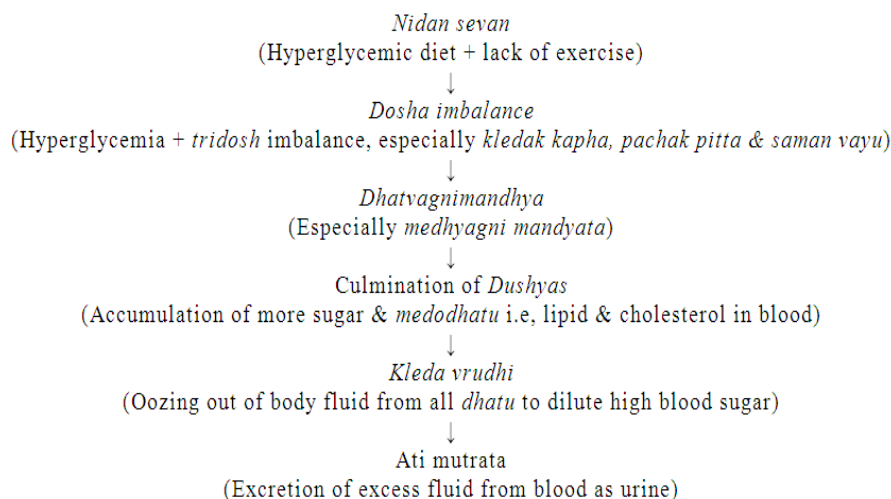
Mentioning about the causative factors of *Madumeha*,^[5] *Acharya Charak* says it occurs due to- inactivity or lack

of exercise, excessive sleep, excess use of milk, milk products s/a- curd, use of *gramya*, *audaka* and *anoop mansa*, use of newly harvested cereals, use of jagger, sugar and their derivatives, use of other *kapha* promoting things. Similarly modern science says that in DM, hyperglycemia occurs by eating too much sugary food, drinking alcohol, not complying with body insulin or exercise.

Other risk factors are-

- Age more than 45 years
- Family history of diabetes
- Over weight
- Smoking or alcohol
- High blood cholesterol level
- History of high blood pressure
- Women with pregnancy related diabetes

Diagrammatic presentation of *Samprapti of Madhumeha (Diabetes Mellitus)*^[6]



Complications in diabetes

The persistent hyperglycemia, hyperlipidemia and hypercholesterolemia *Bahu-abadha meda* in long term causes non-enzymatic glycosylation of vascular endothelium and also causes development of atherosclerosis in vessels which help in development of different complication of diabetes mellitus-

Microvascular Complications -it includes Retinopathy, Neuropathy Nephropathy.

Macrovascular Complications- it includes Coronary Artery Disease, Decreased Cerebral Circulation, Peripheral Vascular Disease (s/a- Diabetic Foot).

Prevention of diabetes

The best way to prevent D. M. is *Nidanaparivarjana* i.e, to avoid causative and precipitating factors of D.M. and also-

- Maintain a healthy weight
- Do regular physical exercise
- Take healthy food
- Maintain blood pressure and blood cholesterol
- Quit alcohol and smoking

Management of diabetes

It includes- »*Ahar* (diet)

»*Vihar* (lifestyle)

»*Aushadhi* (medicine)

1. *Ahar* (diet)^[7]

***Pathya* (favorable diet)**- *Yava*, *Godhoom*, *Shyamaka*, *Kodrava*, *Bajara*, *Mudga*, *Chanaka*, *Tikta Shaka*, *Methika*, *Nimba*, *Karavellaka*, *Patola*, *Rasona*, *Udumbar*, *Jambu*, *Tala Phala*, *Kharjura*, *Kamala*, *Utpala*, *Jangal Mansa*, *Purana Sura*, *Sarsapa*, *Ingudi*, *Goghritadi Ahara*.

- Foods which have low glycemic index should be used and they should have predominantly *tikta rasa*.
- Small but frequent meals should be taken
- Frequently green vegetables, leafy vegetables, high fibrous foods should be taken.

***Apathya* (unfavorable diet)**- *Dugdha*, *Dadhi*, *Takra*, *Ikshuvikara*, *Guda*, *Pista-Anna*, *Nava-Anna*, *Urada*, *Gramya-Audaka-Anoopa Mansa*, *Naveen Sura Avum Madhya*, *Adhyasan*, *Viruddhasana*, *Kapha-Meda Vardhak Ahara*, *Madhur-Amla-Lavana Rasadi ahara*.

2. *Vihar* (life style)^[7]

***Apathya Vihar* (unfavorable life style)**- *Sukha-asana*, *Sukha-sayana*, *Divya-sayana*, *ati-maithuna*, *Vegadharanadi*.

***Pathya Vihar* (favorable life style)**- *Chankamana*, mild to moderate *Vyayama*, *Snana*, *Udvartana*, *Krina*, *Pranayama*, *Yogasana etc*.

Exercise daily for 30-45 minutes or walk 3-5 km

Yoga asana- following yoga asana can be practiced

- Pashchimotanasana
- Kurmaasana
- Halasana
- Mayurasana
- Suryananaskara
- Pranayama (Bhastrika)

Chikitsa siddhant^[8]

Sodhan Chikitsa- Type II D.M. patient who are *sthaulya* or *balvan* should be given *Sodhan chikitsa* i.e, *Vamam* or *Virechan* according to *dosha* predominance and *Asthapan Basti* if patient has predominant involvement of *vata dosha*. Some *madhumeha nashak asthapan basti* are-

- Panchtikta Panchprasrita Niruha Basti (Ch. Si.-8/8)
- Somvalkak Niruha Basti (Ch. Si.- 10/43)
- Mustadi Yapana Basti (Ch. Si.- 12/15,16)
- Pramehhar Asthapan Basti (Su. Chi.- 38/76)

Saman Chikitsa

Some single drugs are

- Haridra, Vijaysara, Palandu, Amalaki, Karvallaka, Amrita, Jambu, Nimba, Methika, Shilajatu.
- Amalki Swaras may be used with Haridra Churna and Madhu (Su. Chi.-11/18)
- Patient of *Madhumeha* can take total 1 tula of *Salsaradi gana kwath bhawit Shilajatu* with decoction of *salsaradi gana* as *anupanam*.

Other formulations for Madhumeha

Ras bhasma

- Vasant Kusumakar Rasa
- Brihadvangeswar Rasa
- Tarkeswar Rasa
- Swarnavanga Bhasma
- Trivanga Bhasma
- Apurvamalini Vasant Rasa

Vati

- Shivagutika
- Chandraprabha Vati
- Shilajatvadi Vati

Churna

- Triphala Churna
- Yaya Churna
- Nyagrodhadh Churna

Kwath

- Trphala Kwath
- Darvyadi Kwath
- Salsaradi Kwath

Asav-arista

- Lodhra Asava
- Madhvasav
- Dantyarista

Ausadh Siddha Paniya/ Udak

- Sarodak
- Kushodak
- Madhodak
- Triphala Rasa

Prevention of Complications

Once the diabetes mellitus has developed then blood sugar level should be controlled by using *Madhumehahar* drugs and its complications should be prevented by using specific drugs and *rasayana-*

- To prevent nephropathy- *Silajatu Rasayan* and *Chandraprabha Vati*
- To prevent retinopathy- *Amalaki, Triphala.*
- To prevent neuropathy and for general health – *Aswagandha, Atibala.*
- To control hyperlipidemia, hypercholesterolemia and to prevent atherosclerosis - *Puran Guggulu, Rasona.*

Management of complications

Once complications develop it can be treated by strictly controlling blood sugar level by using *Madhumeha-har* drugs and by using specific treatment s/a-

For nephropathy - *Punarnava, Gokharu, Gokshuradi Guggulu, Silajatvadi Guggulu, Chandraprabha Vati, Bhumyamalaki Churna, Vasa Patra Churna.* These drug increase renal blood flow, improves GFR, decrease inflammation and hence help in reducing urea, creatinine and reduces urinary excretion of protein.

For retinopathy- along with *Chachusya* drugs like- *Amalaki, Triphala,* etc *Netra kriya kalpa* should be used s/a- *Tarpana, Netradhara, Takradhara, Putapakam, Netra Lepa* and *Anjana.* These procedures provide strength to the damaging vessels and prevent further blood leakage.

For neuropathy and for general health – *Aswagandha Churna, Atibalamula Kwath, Bhumyamalaki Churna* can be used. These drugs show significant improvement in abnormal sensations such as tingling, burning, numbness, etc and reduces pain in lower limb and improves the general health.

For hyperlipidemia, hypercholesterolemia and atherosclerosis - *Rasonadi Guggulu, Arogyavardhani Vati* can be used. *Medohar Guggulu, Triphala Guggulu, Vidangadi Lauha* can be used in patients obesity with above complications.

For diabetic foot – *Prachalan* and *shodhan* by *kwath* (decoction) such as *panchvalkal kwath, triphala kwath* should be done. For *shodhan,* *yavakshara* can also be used. For *Ropan Karrna* a mixture of *madhu* and *goghrita* or only *goghrita* can be used. Other *Prameh Pidika Nasak* drugs can be used in diabetic foot ulcer such as- *Nimbadi Churna, Navayas Lauh, Sudha Gandhak, Gandhak Rasayana, Dhanvantar Ghrita.*

Control of associated problems s/a- hypertension is also important.

DISCUSSION

Diabetes is a life style related metabolic disease and it is always said that "Prevention is better than Cure" so in this paper we have discussed about the life style related risk factors which are suspected to cause Diabetes (*Madhumeha*) and also the life style related modifications for its prevention. Since diabetes is also one of the most prevailing diseases in the world and in India, so along with its treatment modalities, measure to prevent its complications and their treatment is also discussed.

CONCLUSION

Lifestyle related and metabolic diseases like diabetes are our own creation as we are unable to resist the temptation of cocktail partying, sedentary living environment, blind pleasure psychosis, irregular sleeping habits, taking metric kilos of junk foods. The only remedy lies in the fact that, man needs to control his senses and to remain in harmony with the nature by avoiding certain harmful diets and lifestyle responsible to cause it. *Ayurveda* is not only capable of preventing diabetes by adopting *Pathyapathya* and *Sadvrita palana* but it also has immense capability controlling diabetes, preventing its complication and treating its complication.

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