

A CRITICLE REVIEW ON AVARANAJANYAMADHUMEHA WITH SPECIAL REFERENCE TO DIABETES MELLITUS TYPE II

Vikas Nariyal¹ Priyanka Sharma² Udai Raj Saroj³

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ABSTRACT

Ayurveda is ancient science of Indian indigenous health system. In the age of evidence based health system, *Ayurveda* lags behind as its principals although stands valid today but lack in their validation by evidences. In this article an attempt has been made to correlate *Avarana Janya Madhumeha* and Diabetes Mellitus Type II, so that they become easy to all medical professional to understand. Classical text books of *Ayurveda*, the text books of modern medical science, various journals and previous studies conducted on similar subject were studied and reviewed critically to make an understanding of the subject. *Avarana Janya Madhumeha* on the basis of *Panchanidana* can be co-related with Diabetes Mellitus Type II. Common risk factors, pathology, prodromal symptoms, complications and reduction in the blood sugar levels and improvement in symptoms of diabetes & its complications after administration of *Madhumeaghna Dravya* further support this.

Keywords: *Madhumeha*, Diabetes mellitus type 2, *Avarana Janya Madhumeha*, insulin resistance.

INTRODUCTION

Various urine disorders have been described under the umbrella term of *Prameha*. *Madhumeha* is a one of four types of *Vatika Prameha*. *Madhumeha* in *Ayurveda* have been described by urine character. In ancient *Vedic* era diagnosing diseases in such manner could be advance measure but in present era of nuclear imaging techniques, various blood checkups and many more sophisticated but much more scientific and reliable techniques, it is hard to explain the disease entity like *Madhumeha* in this scenario.

In *Ayurveda* diagnosing a disease by just its *Rupa* (Sign & Symptoms) is not justified because *Ayurveda* has put importance to *Nidanapanchaka* i.e. *Nidana* (Etiology), *Poorvarupa* (Prodromal symptoms) *Rupa* (Sign & Symptoms) *Upshaya* (Management) and *Samprapti* (Pathology)

As per follower of *Ayurveda* scholarly system, we generally have a debate on establishing correlation of *Avaranajanya Madhumeha* with Diabetes mellitus type 2 and usually close the discussion without a fruitful conclusion. Here in this article an attempt have been made to establish a relationship of similarities among the two disease entities.

MATERIAL AND METHODS

Out of classical text books of *Ayurveda*; *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga-Hridayam*, and *Madhava Nidanam* were studied.

Vikas Nariyal¹ Priyanka Sharma² Udai Raj Saroj³
¹Ph.D. Scholar P.G. Department of Kayachikitsa, ²Ph.D. Scholar P.G. Department of StreeRoga and PrasutiTantra, ³Assistant Professor P.G. Department of Kayachikitsa

National Institute of Ayurveda, Jaipur, Rajasthan, India

Email: narriyaal@gmail.com

For text books of modern medical science; Harrison's Principles of Internal Medicine, Oxford Textbook of Medicine and Davidson's Principles & Practice of Medicine were studied. Various journals and previous studies conducted on similar subject at different universities & other research centers. All were studied and reviewed critically.

BODY

Nidana^{1,2,3}(Etiology)

Ayurveda classics have directly indicates that sedentary life style, lack of exercise and high caloric diet are the key causes for the occurrence of disease *Madhumeha*. Person who takes excess of *Sheet* (Cold), *Snigdha* (Oily), *Madhura* (Sweet), *Medya* (Fat rich) *Dravya* (Solids) & *Paana* (Liquids) are said to have *Prameha* in future. Now question is who will have such life style and food habits? A person who is well established in wealth or high economic status will be having chances of developing diabetes. Studies have shown us that economic development has brought on rise in the number of diabetics in world, as the resources develop; person is subjected to have more sedentary life style. Modern science also exclaims this. Modern science exclaims high caloric diet, sedentary life style as risk factors for diabetes mellitus type 2.⁴

*Samprapti*³ (Pathology)

All *prameha* are *Tridoshaja*⁵*Madhumeha* is a *Vata Pradhana Tridoshaja Vikar*. *Acharya-Vagbhata*⁶ has described two types of pathologies in *Madhumeha*. In first type *VataPrakopa* is due to *Dhatu Kshaya* (incurable *Madhumeha*) and second type where *Madhumeha* occurs due to *Avarana* of *Vata Marga* by *Kapha Dosha* and *Pitta Dosha*, which is said *Kricchsadhya* (Difficult to cure) by *Acharya Vagbhata*.

Acharya Charaka directly has not indicated such pathology in *Prameha Nidana* and *Prameha Chikitsa Adhyaya* but in *Sootrasthanam*, has described *Avarana Janya Madhumeha Samprapti* and said it is *Kricchsadhya*. When a person take *Madhumeha Janaka Aharaj Nidana* and *ViharajNidana*, it leads to increase in quantity of *KaphaDosha*, *Medo Dhatu*, *Mansa Dhatu* and *Pitta Dosha* (all for collectively will be called as *Dushya* here). These *Pravridha* (increased) *Dushya*

do *Avarana* of *Vayu* and make *Vayu Prakupit*, this *Prakupit Vayu* take *Oja* to *Vasti (MootrvahaSrotas)* and cause *Madhumeha* disease.

Elaborating above pathology, *Madhumeha Janak Nidana* leads to aggregation of *Kapha Dosha* and *Kapha Vargiya Dhatu* along with *pitta dosha*. These aggregated *Dushya* obstructs the path of *VyanaVayu*⁷ (because circulation function is performed by *VyanaVayu*). This *Prakupit Vyana Vayutakes Oja (Dhatu Prasadansh; blood glucose)* to *Vasti (Apana Vayu Kshetra)* where *Oja* (blood glucose) is expelled out of body through urine.

Type 2 diabetes is due to the combination of insulin resistance⁸ and β -cell failure, the latter preventing sufficient insulin secretion to overcome the insulin resistance. Obesity (*Sthollaya*) induces insulin resistance, especially in skeletal muscle (*Mansa Dhatu*), while weight loss (*Vyayama*) can improve insulin sensitivity in the obese. It is still not clear how an increased fat mass can decrease whole-body insulin sensitivity, but circulating fat-derived products (*Kapha Dosha* and *Kapha Vargiya*) are presumed to be responsible. Levels of free fatty acids are raised in obese subjects, apparently because lipolysis is enhanced, and free fatty acids may cause hyperglycaemia by competing with glucose metabolism in liver and muscle. In muscle, free fatty acids inhibit glycolysis at the level of phosphofructokinase and glucose oxidation via pyruvate dehydrogenase, causing a decrease in glucose utilization and a secondary reduction in glucose uptake (*Avarana Effect*). We can say that high fat derived products hamper the response of target cell (muscle cell) insulin receptors to the insulin (*Avarana* by *Kapha Dosha* and *Kapha Vargiya Dhatu* along with *Pitta Dosha*). This insulin resistance leads to hyperglycemia which leads to renal loss of glucose (*Oja*) by urine (actions of *VyanaVayu* and *Apana Vayu*).

Poorvaroopa^{9,10,11,12} (Prodromal Symptoms)

Symptoms those appear at the time of *Dosh Dushya Sammurchana* are called *Poorvaroopa*. *Poorvaroopa* are presented by *dosha* involved in the pathogenesis. *Kara Pad Daha* (Burning in hands and feet), *Kar Pad Suptata* (Numbness in hands and feets), *Pipasa* (Excessive thirst),

Paridaha Suptata Angeshu (Burning and numbness in different body parts), *Mutre ChMutradoshaan* (vitiated urine), *Visra Sharira Gandhi* (foul smell from body), *Nidra* (excessive sleep) and *Tandra* (Sleepiness) are said by *Acharya Charaka*. In addition to this *Acharya Sushruta* has mentioned *Madhura Shukla Mutrata* (sweet and white color urine) and *Shwasa Daurgandha* (Halitosis) as *Poorvaroop* of *Madhumeha*.

Diabetes is said a silent killer, because when pathology progresses there is generally no specific symptoms of disease itself and occurred symptoms like thirst, polyuria, polyphagia are usually ignored. Sometimes patient come to the outdoor of a hospital or clinic with the complications of the diabetes type 2 like neuropathy, blurred vision, foot ulcers, poor skin hygiene¹³. *KarPada Daha*, *Kara Pada Suptata*, *Paridaha Suptata Angeshu* they indicates neurological complications of diabetes type 2 but as patient is unaware of the cause, he later diagnosed as diabetes mellitus type 2 on proper examination and laboratory investigations. In similar way *Pipasa*, *Madhura Shukla Mutrata* and *Mutre ChMutradoshaan* are initial phases of the diabetes mellitus type 2.

Roop (Signs & Symptoms)

“*PrabhootAvil Mutrata*”¹⁴ is cardinal feature of *Prameha*. “*Prabhoot Mutrata*” means patient passes frequent and heavy amount of urine. In normal individual “*AvilaMootrata*”¹⁵ (Turbidity of urine) is due to various constituents present into it like uric acid, urochrome, hippauric acid, creatinine, ammonia, sodium chloride etc. Abnormal amounts of above said constituents and addition of other abnormal constituents (otherwise absent in normal individual like albumin, hyaline cast, red blood cells and its constituents, white blood cells etc.) brings “*Prabhoot Avilta*” in urine, which is pathologic.

Polyuria, polyphagia, polydipsia, blurred vision, weakness and recurrent infections, these are the chief complaints by diabetes patients. *Acharya Charaka* and *Acharya Sushruta* have described above symptoms under *Poorvaroopa*. When *Poorvaroopa* gets more expressed, they are termed as *Roop*. So when above said *Poorvaooopa*

expresses they self-clear and complete, they should be treated as *Roop* of the *Madhumeha*.

Upadrava^{16,17,18} (Complications)

Acharya Charaka has mentioned common *Upadrava* for *Prameha*. All 19 *Prameha* if not treated¹⁹ will convert into *Madhumeha*, so *Upadrava* by *Acharya Charaka* should be seek with special consideration to *Madhumeha*. *Trishna* (excessive thirst due to polyuria), *Atisaar* (loose stool due to gastro enteric complications of diabetes type 2), *Arochaka*, *Avipaka*, *Putimansa* (wet gangrene), *Pidika-Alaji-Vidradhi* (Abscess and purulent skin infections) are *Upadrava* said by *Acharya Charaka*.

Acharya Sushruta and *Acharya Vagbhatta* have described specific *Upadrava* for *Vaatika Prameha*. *Hridgraha* (functional or anatomical deformities hampering cardiac contractility), *Anidra* (Insomnia), *Kampa* (Tremors), *Stambha* (stiffness), *Shool* (pain), *Udavarta* (Tympanitis), *BadhaPureesh* (constipation or hard stool), *Shwasa* (breathing difficulty), *Kaasa* (cough).

Upshaya (Treatment)

Madhumehagnadravya evamyog^{19,20} (Classical drugs and formulations)

*Haridra*²² (*Curcuma longa*),

*Amalaki*²³ (*Embllica Officinalis*),

Triphala (Three fruits = *Haritaki* (*Terminaliachebulu*), *Amalaki* (*EmbllicaOfficinalis*) & *Bibhitaki* (*Terminaliabellicica*),

*Vijaysara*²⁴ (*Pterocarpus marsupium*),

*Agnimantha*²⁵ (*Clerodendrumphlomidis*).

*Shilajatu*²⁶ (*Asphaltumpunjabinum*),

*SwaranaMakshika*²⁷ (*Chalcopryrite*)

*Tuvaraka*²⁸ (*Hydnocarpuslaurifolia*) *Rasayana Kalpa*,

Tuvaraka Tailam (*Hydnocarpuslaurifolia*)

Khadira- KramukaKwath (*Acacia catechu*²⁹ - *Areca catechu*³⁰ *Decoction*)

Devdarvyadi Kwatha, *Phaltrikadi Kwatha*

All of these drugs explained in treatment of *Madhumeha* were found to have hypoglycemic action in various studies. This supports the idea of correlation of *Madhumeha* with diabetes mellitus on the grounds of same drugs for treatment.

RESULT

Avarana Janya Madhumeha on the basis of *Panchanidana* can be co-related with Diabetes Mellitus Type II.

CONCLUSION

At every step of pathogenesis, type 2 diabetes resembles *Avarana Janya Madhumeha*. Common risk factors, pathology, prodromal symptoms, complications and reduction in the blood sugar levels and improvement in symptoms of diabetes & its complications after administration of *Madhumehaghna Dravya* show us that two disease entities share similar platform and both terms can be used to understand each other.

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