

MODE OF ACTION OF “INDRAVATI” IN MANAGEMENT OF MADHUMEHA W.S.R. TO TYPE-2 DIABETES MELLITUS.**Dr. Priyanka Singh^{*1}, Dr. Dharmendra Kumar² and Prof. Ram Kishor Joshi³**¹Clinical Registrar, P.G. Department of Kayachikitsa, National Institute of Ayurveda, Jaipur.²Lecturer, Department of Rog Nidan, R.B. Ayur. Medical College, Agra.³Professor and HOD, P.G. Department of Kayachikitsa, National Institute of Ayurveda, Jaipur.***Corresponding Author: Dr. Priyanka Singh**

Clinical Registrar, P.G. Department of Kayachikitsa, National Institute of Ayurveda, Jaipur.

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ABSTRACT

The Clinical condition in which patient passes the urine having concordance with *Madhu* (honey) i.e. of *Kashaya* and *Madhura* taste, *Ruksha* (dry) texture and honey like colour and body acquires sweetness is called *Madhumeha*. Life style disorder Diabetes mellitus is now reaching potentially epidemic proportions in India and mortality due to diabetes and its potential complications are enormous, and pose significant healthcare burdens on both the families and society. Globally rates of diabetes in 1985 were estimated at 30 million, increasing to 135 million in 1995 and 217 million in 2005. This increase is believed to be primarily due to the global population aging, a decrease in exercise, and increasing rates of obesity. India leads the world with largest number of diabetic subjects earning the dubious distinction of being termed the “diabetes capital of the world”. India currently around 40.9 million is expected to rise to 69.9 million by 2025¹. In present paper detail review of *Indravati* an excellent herbomineral preparation, mentioned in *Rasendra Saar Sangraha* in chapter *Prameha Cikitsa* will be given.

KEYWORDS: *Madhumeha*, *Indravati*, herbomineral, Diabetes mellitus.**INTRODUCTION**

Madhumeha is a clinical entity in which patient passes large quantity of urine similar to *Madhu* having *kashaya* & *Madhura* taste, *Ruksha* texture & Honey like colour and thus body attains sweetness.^[1,2] *Madhumeha* has been classified under the *Vatika* type of *Prameha*. The *Vata* may be provoked either directly by its etiological factors, *Avarana* by *Kapha* and *Pitta* to its path or by continuous depletion of *Dhatu*s. The factors which provoke the *Vata* directly causes *Apatarpanajanya Madhumeha* while the factors which provoke *Kapha* and *Pitta* causes *Santarpanajanya Madhumeha*. The *Apatarpanajanya Madhumeha* patients are usually Lean and are equivalent to Type-1 Diabetes mellitus, while the *Santarpanajanya Madhumeha* patients are obese equivalent to Type-2 Diabetes mellitus. Diabetes mellitus is a group of metabolic disease with multifactorial etiology. DM-Chronic metabolic disorder characterized by hyperglycemia with or without glycosuria, resulting from an absolute or relative deficiency of insulin.

Aims & Objectives

The main aim of the article is to study the mode of action of *Indravati* in *Madhumeha* w.s.r. to Type-2 Diabetes Mellitus.

MATERIAL AND METHODS

Important manuscripts of *Ayurveda* such as *Charak Samhita*, *Sushrut Samhita*, *Dravya Guna*, along with *Rasa Shastra*, literature like *Rasendra Saar Sangraha* and *Ayurvedic* formulary of India are the sources of various preparation of *Ayurvedic* medicines. Beside this, we also search out different formulations containing ingredients of *Indravati* in *Ayurvedic* classics as well as different search engines like Pubmed, Google Scholars etc, and other pharmacological journals to find out the probable mode of action in relation to *Madhumeha*.

Ayurvedic Properties

Indravati an excellent herbomineral preparation, mentioned in *Rasendra Saar Sangraha* in chapter *Prameha Cikitsa*.^[3] In *Indravati*, *Rasa-sindoor* 1 part, *Vanga bhasma* 1 part, *Arjuna Twak* (bark) 1 part, *Shalmali Moola* (Root)- As per requirement to be taken.

Rasapanchaka of Indravati

Drug	Rasa	Guna	Veerya	Vipaka	Karma
Rasa-sindoor	Katu, Tikta	Laghu, Ushna, Tikshna	Ushna	Katu	Vata-Kaphagna
Vanga bhasma	Tikta, Kashaya, Kinchit Lavana	Laghu, Ruksha	Ushna	Katu	Kaphahara, Pittahara
Arjuna	Kashaya	Laghu, Ruksha	Sheeta	Katu	Kaphahara, Pittahara
Shalmali	Madhur	Laghu, Snigdha, Pichchil	Sheeta	Madhur	Vrishya, Grahi, Vajikarak, Pittahara, Shothahara

a) **Mode of action of Rasa-sindoor^[4] in Madhumeha**
Rasa sindoor posses *Laghu, Ushna* and *tikshna Guna*, have *ushna virya, katu paka* with these properties it helps to alleviate *bahu sleshma* and *abadh meda* from body and obstruction of *srotasa* by their *shoshana* and *vilayana*. *Katu rasa* stimulates *pachakagni* desiccants the food removes obstruction and dilates the passages and allays *Kapha Doshas*. Its main pharmacological action is *Amapachana* and make *Ama* stable (it obstructs the processing of product of digestive impairment i.e. *Ama*) which helps in glucose uptake in insulin sensitive tissues like as muscle, fats etc. by enhancing activity of insulin receptor (*Avaranagana* effects). The *Tikta Rasa* has potency to improve the basic cellular metabolism due to their *Shodhana* properties.

b) **Mode of action of Vanga bhasma^[5] in Madhumeha**

Vanga bhasma mentioned in different texts of *Rasashastra* reveals that *Vanga bhasma* is a potent drug in handling *Madhumeha*. *Vanga* is indicated in *Sarva Prameha*, thus it has wide range of therapeutic efficacy. The *Mehaghna, Medoghna, Chakshushya, Rasayana* and *Vrishya* properties of *Vanga* makes it a good choice of drug in *Madhumeha*.^[6] *Vanga bhasma* mentioned as *Laghu* (Easy for digestion), *Sheetal* (cooling), *Ruksha* (dry) in its properties and little bitter and pungent in taste. Therapeutically it acts on *Medovikara* (obesity), *Kapha Vikara* (*Kapha Dosh*a predominant disorders), rejuvenate all the types of *Prameha*.^[7]

c) **Mode of action of Arjuna^[8,9] in Madhumeha**

Even through all three *Dosha* are involved in *Madhumeha* manifestation, the *vata* predominance is understood with constipation which ultimately leads to the loss of *Agni* and *Krura Koshtha*. Thus it blows the *Jatharagni* and regularizes the *Mandagni* which is the main cause of *Madhumeha*. *Karapadadaha, Trishnadhikya* and *Swedadhikya* symptom are cured by *Sheeta Veerya* of *Arjuna*. *Laghu* and *Ruksha Guna* clears the *mala* and *kleda* from *srotas* and alleviates. Thus the *Arjuna* is capable of correcting the *Dhatu* vitiation (*saithilyata*) and regulating the sugar in blood.

d) **Mode of action of Shalmali^[10] in Madhumeha**

Madhura Rasa being habituated since birth produces greater strength in *Srotasa, Dhatus* (tissues) and improves the strength of *Oja* due to their *Ojovardhaka* and *Rasayana* properties which play an important role in

pathogenesis of *Madhumeha*. *Laghu Guna* increases the *Agni* and decreases *Kapha*. It produces *Laghuta* in the body. *Madhura Vipaka* acts as *Rasayana*.

DISCUSSION

Indravati has predominance of *Katu Rasa*. *Katu Rasa*^[11] stimulates *Pachakagni*, desiccants the food removes obstruction and dilates the passages and allays *Kapha Dosh*a. Its main pharmacological action is *Amapachana* and make *Ama* stable (it obstructs the processing of product of digestive impairment i.e. *Ama*) which helps in glucose uptake in insulin sensitive tissues like as muscle, fats etc. by enhancing activity of insulin receptor (*Avaranajanya* effects).

The *Tikta Rasa*^[12] has potency to improve the basic cellular metabolism due to their *Shodhana* properties. *Tikta rasa* with its *lekhana* and *shoshana* properties, it cleans *srotasa*, it helps in the *shoshana* of *bahu mutrata*, and *shodhana* of *Mutra*.

In *Indravati* contents are of *Laghu, Ruksha, Tikshna Guna* which balance with *Snigdha* and *Guru Guna*. *Laghu Guna* is *Kaphaghna*, promotes *Vata Dosh*a and pacifies *Kapha* and *Meda Dhatus*. *Tikshna Guna* promotes *Pitta Dosh*a, pacifies *Kapha Vata Dosh*as and possesses *Srotoshodhaka* activities. All of these processes are balanced with *Madhura Rasa, Rasayana* and *Yogavahi* properties of drug.

Total drug effect by which the trial drug is effective in *Madhumeha* is because of its various qualities like *Ojovardhaka, Rasayana* and *Yogavahi* which pacifies the *Vata Dosh*a and minimize the chances of the complication of *DM* whereas the other properties of the trial drug like *Kashaya-Tikta Rasa, Katu Vipaka* may act synergistically to produce beneficial effects on the disease by virtue of its *Rasayana, Yogavahi, Tridoshashamaka Karma* and are *Grahi, Deepana* and *Amapachana* as well *Pramehaghna* effects. These effects may be helpful in *Samprapti Vighatana* of *Madhumeha*.

CONCLUSION

On the basis of above observations it is concluded that the drug *Indravati* is effective in *Madhumeha*.

1. Idib API (2)text book of medicine.page 322

2. Ashtang Hridya, Ravi Dutt Tripathi, Reprint year 2016, Chaukhambha Bharati Academy, Varanasi, A.H.Ni.10/18
3. *Agnivesha, Charak samhita*, edited by pandit kaashinath pandey and gorakhaath chaturvedi, Chaukhambha Publication, Varanasi, Cha.Ni.4/44
4. e`ra lwra e`ra oM--xetqZuL; RopkfUore~ ArqY;ka"ka enZ;sRk~ [kYys "kkYeY;k ewytSnzZoS % AA2AA
fnukUrs oVhdk dk;kZ ek'kek=k izesggk A,'kk bUnzoVhukEuk e/kqesgiz"kkUr;s AA 3AA (j- lk-la- izesg fpfdRlk)
5. Rasa Mitra, Trayambaka Nath Sharma, Choukhamba Sanskrit Series varanasi, Reprint Edition 2001, pp 52-53.
6. Ayurveda Prakash, Arthavidyotini and Supasarthprakashini Sanskrit and Hindi Commentary by Gulraj Sarma, Reprint edition 1999, Varanasi; Chaukhambha Bharati Academy, chapter-3, Versus- 152, pp.-374.
7. Rasa Tantra Sara evam Sidshaprayoga Sangraha, part-1, Ajmir: Krishna Gopal Ayurveda Bhawan, p.59-62.
8. Sadanand Sharma, Rasa Tarangini, Chapter 18, eleventh edition, Reprint on 2004, Motilal Banarasidas Publication, page. 443.
9. Sharma, P.V. (1981), Dravyaguna Vijnana, Chaukhambha Bharati Academy, Varanasi, Vol. II, PP. 195.
10. Database on Medicinal Plants Used in Ayurveda, Published by The central council of Research in Ayurveda & Siddha, New Delhi, Year of publication 2000, Volume 3.
11. Sharma, P.V. (1981), Dravyaguna Vijnana, Chaukhambha Bharati Academy, Varanasi, Vol. II, PP. 491-494.
12. Charaka Samhita, Vidyotini Hindi vyakhya, Chaukhamba Vishwabharti Varanasi, Kashinatha Shastri & Gorakhnath Chaturvedi, Year 2011 Reprint edition, Sootra-26, pp506.
13. Charaka Samhita, Vidyotini Hindi vyakhya, Chaukhamba Vishwabharti Varanasi, Kashinatha Shastri & Gorakhnath Chaturvedi, Year 2011 Reprint edition, sootra-26, pp506.