



AYURVEDIC MANAGEMENT OF DIABETES MELLITUS- A CASE STUDY

SINGH N*, YADAV JV, KADAM SS AND SHARMA A

- 1: PG Scholar, Swasthawritta & Yoga Department, Dr.D.Y.Patil college of Ayurved and Research Centre, Pimpri, Pune - 411018, Dr.D.Y.Patil Vidyapeeth Pune (Deemed to be University)
- 2: Guide & Associate professor, Department of Swasthawritta and Yoga, Dr D.Y.Patil College of Ayurved and Research Centre, Pimpri, Pune - 411018, Dr.D.Y.Patl Vidyapeeth, Pune (Deemed to be University)
- 3: MD (Ayu) PGDPC, Savyan Swasthayurved Clinic
- 4: Assistant Professor, Guru Nanak Ayurvedic Medical College and Research Institute Gopalpur, Ludhiana

*Corresponding Author: Dr. Neelam Singh: E Mail: neelamsingh2727@gmail.com

Received 25th Jan. 2023; Revised 26th April 2023; Accepted 1st May. 2023; Available online 1st May 2024

ABSTRACT

Background: Diabetes Mellitus refers to a group of common metabolic disorders that share the phenotype of hyperglycemia. A disease in which the body does not control the amount of glucose (a type of sugar) in the blood and the kidneys make a large amount of urine. **Case Report:** Patient of age 37 yrs. old having, complain of *Prabhutmutrata* (excess urination), *Naktmutrata* (night time urination), *Vibandha* (constipation), *Atinidra* (sleepiness), *Swedadhikya* (excess sweating), *Trishna* (thirst), *Daurbalya* (weakness) from 1yr showed HbA1C as 7.67%. The Ayurveda treatment including *Araogyavardhini Rasa*, *Chandraprabhavati*, *Madhurantak Rasa*, *Prasham*, *Praval Panchmarut*, *Haridra Khand* and *Vasant Kusumakar Rasa* was administered to the patient. Follow up was taken for 3 months. **Result:** significant results were seen on subjective and objective parameters of the patient. **Conclusion:** Integrating the theory and modalities of Ayurveda in the management of these disorders may prove to be beneficial. A more personalized approach on the principles of ayurveda may help to resolve the sign, symptoms and complications of diabetes in a more precise manner.

Keywords: *Prameha*, diabetes mellitus, *Vasant Kusumakar*, *Chandraprabhavati*

INTRODUCTION:

Diabetes Mellitus refers to a group of common metabolic disorders that share the phenotype of hyperglycemia. A disease in which the body does not control the amount of glucose (a type of sugar) in the blood and the kidneys make a large amount of urine [1]. This disease occurs when the body does not make enough insulin or does not use it the way it should. Several distinct types of DM are caused by a complex interaction of genetics and environmental factors [2]. Depending on the aetiology of the DM factors contributing to hyperglycemia include reduced insulin secretion, decreased glucose utilization, and increased glucose production [3]. Ayurveda describes a set of complex clinical disorders with frequent abnormal micturition, collectively called *Prameha*, which correlate in many ways with obesity, metabolic syndrome, and diabetes mellitus [4]. Acharya Charak has given an exhaustive description of the disease *Prameha* which ultimately progresses towards *Madhumeha* or the sweetness of urine in addition to Polyurea [5]. In 2021, Approximately 537 million adults (20-79 years) are living with diabetes. The total number of people living with diabetes is projected to rise to 643 million by 2030 and 783 million by 2045 [6].

Ayurvedic concept: The word *Prameha* consists of two words i.e. *Pra* (*Upsarga*-prefix) and '*Meha*'. *Meha* is derived from

the root '*Mih Secane*' meaning watering with reference to disease of the human body. Excessive quantity and frequency is indicated by the prefix *Pra*. Therefore the word *Prameha* means passing urine profusely both in quantity and frequency [7]. Acharya Vagbhata describes *Prameha* as frequent and copious urine with turbidity i.e. *Prabhutavila Mutra* [8].

Aetiological classification on the basis of aetiology, Sushruta has mentioned clearly two types of *Prameha*. One is *Sahaja* (hereditary) another is *Apathyanimittaja* (Acquired). Out of these two, *Apathyanimittaja Prameha* has a close resemblance with the contemporary concepts of Type-2 Diabetes mellitus. On this basis, Ayurveda has described *Sthula Pramehi*, which clearly corresponds to the current concepts of obese and its role in the genesis of type-2 Diabetes mellitus.

Twenty types of *Prameha* have been described according to Dosha involvement in Ayurveda: i. *Kaphaja Prameha* - 10 ii. *Pittaja Prameha* - 06 iii. *Vataja Prameha* - 04. Acharya Bhela has named them as - *Prakétaja* and *Svakétaja Prameha*. a. *Sahaja*: *Sahaja Prameha* occurs as a result of Bija dosa i.e genetic origin. While describing prognosis, Acarya Caraka has narrated that *Jatapramehi* is incurable. And *Apathyanimittaja* : It occurs due to unwholesome *Àhara & Vihara*. (Faulty diet

& life style errors) [9].

As it is evident that *Kapha Dosha* is predominant in *Prameha* and the *Dushya Meda* is of the same nature. "*Nidana Parivarjana*" is very firmly advocated in all classics for the management of disease. So, *Ahara* which does not increase body weight and is opposite to the etiological factors of *Prameha* is advised to the patient. It is well known that diabetes is a disease of modified lifestyle and faulty Agni, so more emphasis should be given on diet and bio purificatory measures. In Ayurveda for the treatment of *Prameha*, drugs having *Tikta* (bitter), *Katu* (pungent) and *Kasaya* (astringent) *Rasa* have been recommended. Integrating the

theory and modalities of Ayurveda in the management of these disorders may prove to be beneficial [10].

Case Report: Patient of age 37 yrs. old visited Savyan Swasthayurved Clinic with, complaints of *Prabhutmutrata* (excess urination), *Naktmutrata* (night time urination), *Vibandha* (constipation), *Atinidra* (sleepiness), *Swedadhikya* (excess sweating), *Trishna* (thirst), *Daurbalya* (weakness) from 1yr. Past history- Patient was having past complaints of allergic rhinitis and was exposed to COVID 19 infection in march 2020. Family history- Patient father had a long-standing history of Diabetes Mellitus.

Table 1: General examination

Sr.no.	Examination	Findings
1.	Pulse	78/min
2.	Blood pressure	130/90 mm hg
3.	Respiratory rate	18/min
4.	Temperature	97°F
5.	CVS	S1S2- normal
6.	R/S	Air entry bilaterally equal
7.	CNS	Conscious, oriented
8.	P/A	Soft, no tenderness
9.	Bladder	Excessive urination
10.	Bowel	Constipated some time

Table 2: Ashtvidha Parikshan

<i>Jivha</i>	<i>Sama</i> (coated)
<i>Mala</i>	<i>Vibandha</i> (hard stools) 1time/day
<i>Mutra</i>	Excess (2-3 times at night)
<i>Sudha</i>	Normal
<i>Nidra</i>	Excess
<i>Trushna</i>	Normal
<i>Akruti</i>	<i>Madhyam</i>
<i>Sparsha</i>	<i>Anushna</i> -sheet

Table 3: Dashvidha Parikshan

<i>Prakriti</i>	<i>Vata Kapha</i>
<i>Vikruti</i>	<i>Rasa dhatu, Meda dhatu, Mutra, Kleda</i>
<i>Desha</i>	<i>Jangal</i>
<i>Bala</i>	<i>Madhyam</i>
<i>Kala</i>	<i>Grishma</i>
<i>Agni</i>	<i>Madhyam</i>
<i>Vaya</i>	<i>Madhyam</i>
<i>Sattva</i>	<i>Madhyam</i>
<i>Satmya</i>	Yogurt, pickle, milk, day sleep (1.30 hr daily).
<i>Ahara</i>	Sweet, Nonveg twice in a week specially fish

Strotaspariksha

Purishvaha- Constipation, 1-time hard stool.

Raktvaha- Hypertension. S1, S2 normal.

Medovaha- excess sweating.

Mutravaha- excess urination, night urination.

Investigations: By the above finding patient advised for blood sugar and other investigations. HbA1C dated 12.05.21 was 7.67%, RBS 117.44mg%, CRP was raised to 22.59 mg/dl. Other blood test including CBC, LFT, RFT were within normal limits
Hetu- In this patient, excess eating of sweet, jaggery, curd, nonveg especially fish and milk and day sleeping were found.

Samprapti- Excess intake of *Kapha*, *Pittakar* diet and routine raised the *Mansa*

and *Meda* levels in the body. This increased level of *Kapha* and *Meda* obstructed the channels *Margavrodha*. *Avrutavayugati* disturbed the *Oja*, and *Vata* increased. *Vayusrukshaguna*, *Madhur Rasa* of *Ojas* changed into the *Kashaya Rasa*. This *Ojas* mixes with the *Mutravahasrotas*, and *Prakupit* *vayu* expels the *Oja* like *Madhu*. *Avrittavata* then entered the *Mutravahasrotas* and down towards the bladder, and frequently, honey-like urine was seen, and *Madhumeha* occurred. The levels of blood sugar reported daily, It is confirmed that according to ICD criteria as a diabetes mellitus-II. According to Ayurveda it was established as the *Madhumeha* [11].

Table 4: Treatment protocol given along with the timeline

Date	Drug	Dose	Duration
16.05.2021	<i>Arogyavardhini Vati</i>	250 mg BD after meals	For 1.5 months
	<i>Madhurantak Vati</i>	250 mg BD after meals	For 3 months
	<i>Chandraprabha Vati</i>	250 mg BD before meals	For 3 months
	<i>Haridra Khand Yoga</i>	2 g BD after meals	For 3 months
	<i>Praval Panchamrut</i>	250 mg BD after meals	For 3 months
	<i>Prasham</i> Tablet	250 mg BD after meals	For 3 months
14.06.2021	<i>Vasantkusumakar Rasa</i>	250 mg OD empty stomach.	For 28 days

Assessment criteria: Assessment was done on subjective and objective parameters. The

subjective parameters were based on the grading as shown below [12].

<i>Prabhoota Mootrata</i> (Quantity of urine) in litres 1.5 to 2.00 2.00 to 2.50 2.50 to 3.00 3- 3.00 onwards	<i>Daurbalya</i> (debility) Can do routine exercise/ work Can do moderate exercise with difficulty Can do mild exercise only, with difficulty Can't do mild exercise
Frequency of Urine 3 to 6 times per day, rarely at night 6 to 9 times per day, 0-2 Times per night 9 to 12 times Per Day, 2-4 times per Night More than 12 times per day, more than 4 times per night	<i>Ati Trishna</i> (polydipsia) Intake of water 5-7 times /24hours with quantity 1.5-2.5 liters /24 hours Intake of water 7-9 times /24hours with quantity 2.5-3.0 liters /24 hours Intake of water 9-11 times /24hours with quantity 3.0-3.5 liters /24 hours Intake of water >11 times /24hours with quantity >3.5 liters /24 hours

Swedadhikya (Perspiration) Sweating after some strenuous or heavy work or in hot & humid weather Profuse sweating after moderate work and movement Sweating after little extra work than routine and movement Profuse sweating after routine work	Atinidra (Sleepiness) >7 hours 6-7 hours 5-6 hours <5 hours
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Follow-up and outcome – Patient were followed up for 3 months. The outcome subjective and objective parameters were as shown below.

Table 5: Outcome on subjective parameters:

Subjective Parameters	Before treatment (12.05.21)	During treatment-follow up 1 (2.06.2021)	During treatment-follow up 2 (10.07.2021)	After treatment (06.08.2021)
<i>Prabhoota Mootrata</i> (Quantity of urine)	3	2	1	1
Frequency of Urine	2	2	1	1
<i>Swedadhikya</i> (Perspiration)	2	2	1	0
<i>Daurbalya</i> (debility)	2	2	1	1
<i>Ati Trishna</i> (polydipsia)	3	2	1	0
Sleepiness	2	2	1	1

Table 6: Outcome on objective parameters

Parameters	Before treatment (12.05.21)	During treatment-follow up 1 (2.06.2021)	During treatment-follow up 2 (10.07.2021)	After treatment (06.08.2021)
Investigations	HbA1C 7.67%	-	-	HbA1C 6.2%
	RBS 117.44 mg%	FBS-99.47 mg%	FBS-91.25 mg%	Average Blood Glucose- 131.24 mg/dl
		PP- 157.38 mg%	PP- 138.12 mg%	

DISCUSSION:

On the above observation there is a significant difference between before and after treatment. The subjective parameter gives the satisfied result on *Prabhutmutrata* (excess urination), *Naktmutrata* (night time urination), *Vibandha* (constipation), *Atinidra* (sleepiness), *Swedadhikya* (excess sweating), *Trishna* (thirst).

Arogyavardhini compound is a formulated medicine. The contents of *Arogyavardhini* compound like *Tamra Bhasma* (incinerated copper), *Guggulu*, *Katuki*, *Triphala* are having *Lekhana* (weight-reducing), *Dipana*

(improving digestion and metabolism) and *Medadoshahara* (correcting lipid metabolism and transportation) properties [13]. *Lasuna* (garlic) is having *Avaranahara* (removal of obstruction in micro channels), *Rasayana* (antioxidant) properties, which may be useful to correct the underline pathology of disease and establish the normal physiology [14]. Recent researches on *Arogyavardhini Rasa* have proved its anti-dyslipidemic and weight lowering effect. Anti-hypertensive, Anti-hyperglycemic, Anti-hyperlipidemic and Antioxidant effects of *Lasuna* (garlic)

are also proven by various researches [15]. *Madhurantak Vati* is an ayurvedic composition used mainly for managing the signs, symptoms and complications of diabetes. It has *Mehahara* (treats urinary tract disorders), *Rasayani* (rejuvenates the whole body), *Deepana* (enhances stomach fire), *Dahahara* (relieves burning sensation), *Prameha*, *Trutahara* (relieves excessive thirst) and *Balya* (improves muscle strength) properties.

Chandraprabha Vati has got very remarkable effect in mitigation of *Prameha* which correlates in many ways with obesity, metabolic syndrome and diabetes mellitus (*Madhumeha*). It is used in Ayurvedic system of medicine for various indications [16] such as *Vibandha* (Constipation), *Anaha* (Distension of abdomen due to obstruction to passage of urine and stools), *Mutrakricchra* (Dysuria), *Ashmari* (Calculus), *Arsha* (Hemorrhoids), *Arbuda* (Tumor), *Mutraghata* (Urinary obstruction), *Mandagni* (Impaired digestive fire), *Striroga* (Gynaecological disorders), *Artava Ruja* (Dysmenorrhea), *Shukra Dosha* (Vitiation of semen), *Daurbalya* (Weakness) and *Prameha*. *Chandraprabha Vati* exhibits the anti-hyperglycemic effect and attenuates the glycation associated elevation in the lipid profile [17]. *Prasham* tablet has been used traditionally for its whole-body calming effects and as a supplement to help maintain a positive

mood. It acts as anxiolytic, memory enhancer and a supportive medicine.

Praval Panchamrut contains *Mukta Bhasma* (*Bhasma* of pearl), *Shankha Bhasma* (*Bhasma* of conch), *Shukti Bhasma* (*Bhasma* of pearl oyster), *Kaparda Bhasma* (*Bhasma* of cowries), *Praval Bhasma* (*Bhasma* of coral) [18]. It is mainly *Kaphamarutaghna*. It *Karya* is specifically seen in *Madhyam Koshta*, *Yakrut*, *Pleeha* and *Unduke*. The contents in it are *Pittashamak*, *Dahashamak*, *Raktaprasadak*, *Mutral*, *Grahi*, *Pachaka*, *Agnideepak*, *Stambhak* [19].

Vasant Kusumakar Ras is an Ayurvedic herbo mineral combination which has been extensively used in Ayurveda for treatment of Diabetic complications. The protective effect of *Vasant Kusumakar Ras* can be attributed to pharmacological activities of each of the individual constituents which act synergistically to produce the desired effect. It is used for treatment of *Prameha* (Diabetes) and *Medoroga* (Hyperlipidemia), which may contribute to restoration of serum lipid profile [20]. The *Bhavana Dravyas* used in the formulation have their individual pharmacological effects on physiological pathways implicated in pathogenesis of diabetic retinopathy and amelioration of oxidative stress and inflammation [21].

Prasham Tablet contains *Vacha*, *Pippalimool*, *Parasic Yavani*, *Tagar*, *Brahmi*, *Ashwagandha*, *Shankhapushpi*. It

induces better sleep. It acts as anxiolytic, memory enhancer and a supportive medicine in hypertension and has antidiabetic action. *Haridrakhand* has main content of *Haridra* along with other drugs. It has anti-inflammatory qualities. *Haridra* is prime medicine is diabetes useful for improving the metabolism. Toxins introduced into the body system through diet or environment are cleansed by *Haridrakhand*.

CONCLUSION:

Integrating the theory and modalities of Ayurveda in the management of metabolic disorders may prove to be beneficial. The treatment regime of *Araogyavardhini Rasa*, *Chandraprabhavati*, *Madhurantak Rasa*, *Prasham*, *Praval Panchmarut*, *Haridra Khand* and *Vasant Kusumakar Rasa* shows significant results in management of diabetes. A more personalized approach on the principles of ayurveda may help to resolve the sign, symptoms and complications of diabetes in a more precise manner.

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