Role of Argwadha Nitya Virechana in Madhumeha (Diabetes Mellitus-II): A Case Study

Shilpa Bhaskar Rao Deshpande¹, Shweta Parwe²* and Milind Nisargandha³

¹Department of Panchkarma, Vidarbha Ayurved college, Amravati, India.
²Department of Panchkarma, Mahatma Gandhi Ayurved College, Hospital and Research Centre, Salod (H), Wardha, Maharashtra. Datta Meghe Institute of Medical Sciences, Nagpur, India.
³Department of Physiology, Ashwini Rural Medical College Hospital and Research Centre, Kumbhari, Solapur, India.

Authors’ contributions
This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information
DOI: 10.9734/JPRI/2021/v33i33B31808

Received 20 April 2021
Accepted 26 June 2021
Published 29 June 2021

ABSTRACT
Diabetes Mellitus is now considered a pandemic. Especially in India, the number of patients increased at 14% prediabetic, becoming the capital of Diabetes. It is a clinical syndrome which is characterized by an increased level of blood sugar. In Ayurveda, the madhumeha is explained as a type of prameha. The kinds of madhumeha is of two. One is dhatukshaya, and other is avaranjanya. The avaranjanya type of Madhumeha is allowed to be treated with the shodhana process. In which vamana and virechana are effective.

Objective: The objective of this study was to study the efficacy of Nitya Virechana in the management of madhumeha.

Case report: A single case study of a 59 yrs old male patient who was already diagnosed with madhumeha before 21 days. Symptoms such as pippasa, shramdaurbalya, Bahumutrata were present; after investigation, he was advised for Nitya Virechana.

Result: Symptomatic assessment of the patient was carried out after treatment i.e. after Nitya Virechana and outcome was satisfactory, and the quality of life of patient was significantly improved.

Conclusion: Nitya Virechana brought about good relief in symptoms in patients with Madhumeha and controlling the blood sugar level.

*Corresponding author: E-mail: shweta.parwe@dmimsu.edu.in;
Keywords: Madhumeha; aragwadha kwatha; nitya virechana; diabetes mellitus.

1. INTRODUCTION

Diabetes is the current global problem that affects the economic, physical and mental health of society. The prevalence of Diabetes in 2014 was 382 million, and it will be 592 million in 2035 by the International Diabetes Federation [1]. Diabetes Mellitus (DM II) is a metabolic disease in which the endocrine system has genetic susceptibility and the insulin-regulating tissue. It is caused due to environmental and dietetic factors resulting in insulin resistance and impaired Beta-cell functions [2]. Especially in India, the relationship between calorie intake and obesity increases rapidly due to high fat diet reduction in energy expenditure and urbanization. Due to excess stress and the lack of exercise is the main reason for obesity and Diabetes [3]. Changes in fat and protein metabolism are involved in Diabetes mellitus. Consequent changes in fat and protein metabolism lead to glucose metabolism impairment. Insulin is responsible for not only glucose metabolism but also fat metabolism. Insulin impairment leads to changes in fat, and glucose metabolism leads to Diabetes. Constant high glucose level changes gradually deteriorate insulin secretion [4].

In Ayurveda the Madhumeha is the subtype of vatik Prameha. It has two types one is avarnajanya and other is Dhatukhayajanya. According to Sushruta the vyana Vayu and apanvayu are play the significant role in the prameha pathogenesis. The vyana vayu is essential to the movement of every particle of the body and apana vayu for the excretion when the watery content that is kleda increased it goes into the bladder and increased the urine frequency and the quantity [5]. The treatment of Madhumeha is sanshodhana in which Vamana and Virechana explained in the Samhita. The doshas excess in the madhumeha, so the Shodhan is expressed in the patient of sthulpramehi means the obese patient and santarpan in the lean patient [6]. Many virechaka drugs are explained in the samhitas like the Snuhi. This is the solid purgative. Argwdaha is chosen here for nitya virechana, which is explained in the Prameha. For this purpose patient daily gets the virechak kwatha, which the patients get 2-3vegas is allowed. In Chakrdatta, the Chaturangulakwatha is described in the treatment of prameha [7].

2. CASE PRESENTATION

Case- patient of age 59 yr old having, complain of prabhtmutrata (excess urination), naktmutrata (night time urination), Vibandha (constipation), atinidra (sleepiness), swedadhikya (excess sweating), Trishna (thirst), Daurbalya (weakness) from 1yr. With this complaint patient came to the panchkarma OPD.

Medication history-patient on the anti hypertension medicine- Tab. Salmo 13.5 mg from 2yr. Past history- Lichen planus patient took steroids before 5 yr.

Family history- father, had a history of Diabetes. On this complaint the general examination did.

| Sr.no. | Examination | Findings            |
|-------|-------------|---------------------|
| 1.    | Pulse       | 78/min              |
| 2.    | Blood pressure | 130/90mmhg          |
| 3.    | Respiratory rate | 18/min              |
| 4.    | Temperature | 97°F                |
| 5.    | CVS         | S1S2 normal         |
| 6.    | R/S         | Air entry normal both lungs |
| 7.    | CNS         | Conscious, oriented |
| 8.    | P/A         | Soft, no tenderness. |
| 9.    | Bladder     | Normal urination    |
| 10.   | Bowel       | Constipated some time |
### Table 2. Ashtvidha parikshan

| Nadim       | Atakapa                      |
|-------------|------------------------------|
| Java        | Sama(coated)                 |
| Mala        | Vibandh hard stool 1 time/day|
| Mutra       | Excess at night 2-3 times    |
| Sudha       | Normal                       |
| Indra       | Excess                       |
| Drunk       | Normal                       |
| Akratic     | Madhya                       |
| Spars       | Ashutosh                     |
| Prakriti    | Vat pitta                    |

### Table 3. Dashvidha parikha

| Dushya       | Meda, mutra, kleda, ras,     |
|--------------|------------------------------|
| Desha        | Jangle                       |
| Bala         | Medium                       |
| Kala         | Autumn                       |
| Agni         | Medium                       |
| Prakriti     | Vat-pitta                    |
| Vaya         | Jara                         |
| Sattva       | Medium                       |
| Satyma       | Yogurt, pickle, milk, day sleep 1.30 hr daily. |
| Ahaar        | Sweet, nonveg in week 2 times specially fish. |

### Strotaspariksha

**Purishvaha**-constipation, 1-time hard stool.

**Raktvaha**- Hypertension. S1, S2 normal.

**Medovaha**- excess sweating.

**Mutravaha**- excess urination, night urination.

**Hetu**- In this patient, excess eating of sweet, jaggery, curd, nonveg especially fish and milk and day sleeping are 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 prakupitvayu expels the Oja like Madhu. Avruttavata then entered the mutravahasrotas and down towards the bladder, and frequently, honey-like urine was seen, and Madhumeha occurred [8].

By above finding patient advised for blood sugar and other investigations. The levels of blood sugar reported rose. It is confirmed according to ICD criteria as a diabetes mellitus-II. According to Ayurveda it established as the Madhumeha.

On the above observation, advised for random blood sugar, it was 179 mg/dl. A detailed investigation suggested the patient. And confirmed diagnosis as Madhumeha. And the patient is fit for them. The consent was taken from the patient, and he agreed to Ayurvedic treatment. Then he advised Nitya Virechana (Daily purgation) with Argwadha kwatha. 6gm of fine powder 960ml water boiled 1/8 part and become 120 ml kwatha prepared as per Sharadha Samhita kantha description. This kwatha advised for 21 days. It's action like the, but the Vegas is less as compared to classic. The observation of Vegas is routine till day five afterword's patient get the 2 or 3 Vegas after taking the virechak kwatha. Samyakshuddhi lakshans found in 6 the day of nitya virechana specially laingiki shuddhi found. Samyaklakshnasnot found in vaigiki and maniki. Due to the Nitya virechana the quantity of the drug is less than the classical dose as per dose the Vegas is less, but the laingikishuddhilikeshirolaghav, indriyashuddhi, udarlaghav observed.

The observation before and after treatment is as follows. The Argwadhakwatha shows the effective result in the investigation and on the subjective criteria.
Table 4. Assessment

| Days       | Colour of stool          | Vega/day | Samyak/asamyak | Daurbalya |
|------------|--------------------------|----------|----------------|-----------|
| First 5 days | Normal                  | 1        | Samyak         | No        |
| 16 days    | Stool colour is          | 1-3      | Samyak         | Very less |
|            | yellowish, blackish      |          |                |           |

Table 5. Investigation

| Objective parameter | Before treatment | After treatment |
|---------------------|------------------|-----------------|
| Hb                  | 12.7 g/dl        | 11.6 gm/dl      |
| Leucocyte count     | 72 00/chum       | 69 00/chum      |
| RBC count           | 5.72 ml/cm       | 5.37 ml/cm      |
| ESR                 | 4 mm/hr          | 13 mm/hr        |
| BSL-F               | 139 mg/dl        | 75 mg/dl        |
| BSL-PP              | 164.5 mg/dl      | 100 mg/dl       |
| HbA1c               | 6.40             | 5.82            |
| Triglyceride        | 360 mg/dl        | 129.6 mg/dl     |
| HDL                 | 42.12 mg/dl      | 42 mg/dl        |
| LDL                 | 81.88 mg/dl      | 85 mg/dl        |
| VLDL                | 72 mg/dl         | 25 mg/dl        |
| Total Cholesterol   | 196 mg/dl        | 153 mg/dl       |
| LDL/HDL             | 1.94             | 2               |
| Total Chol/HDL      | 4.65             | 3.6             |
| Urine turbidity     | Clear            | Clear           |

Table 6. Subjective parameter

| Sr no. | Criteria          | Before treatment | After treatment |
|--------|-------------------|------------------|-----------------|
| 1      | Prabhuta mutrata  | 1                | 0               |
| 2      | Nakutmurata       | 1                | 0               |
| 3      | Pipasa            | 1                | 1               |
| 4      | Hastapadtablaha   | 0                | 0               |
| 5      | Vibandha          | 1                | 0               |
| 6      | Shramsswasa       | 1                | 0               |
| 7      | Pipalikasancharti| 0                | 0               |
| 8      | Atinidra          | 2                | 1               |
| 9      | Mukhmadurya       | 1                | 0               |
| 10     | Daurbalya         | 1                | 0               |
| 11     | Kshudhadhikya     | 1                | 0               |
| 12     | Swedadhikya       | 1                | 0               |

3. DISCUSSION

On the above observation there is a significant difference between before and after treatment. The blood sugar parameter is more important; it was found before treatment, the fasting was 139 mg/dl and postprandial becomes 164 mg/dl. After *Argwadhakwatha Nitya virechana* it becomes 75 mg/dl. And postprandial become 100 mg/dl. Significant change is considered to be in the HbA1c is before treatment, it was 6.40, and after treatment, it becomes 5.84. on the lipid profile, the *Argwadhakwatha Nitya virechana* shows significant effect especially on triglycerides before 360 mg/dl after 129 mg/dl. VLDL before 72 mg/dl after it is 25 mg/dl and on total cholesterol 196 mg/dl after 153 mg/dl. The subjective parameter gives the satisfied result on Prabhutmutrata, Nakutmurata, Daurbalya, Mukhmadurya, Atinidrawedadhikya *Shramshwasa, Vibandha*. But no effect on pipasa. On this result, the *Argwadhakwatha* has the sansran property in which it removes the sticky *doshas* on the walls of the gut. By removing the lead and mala from the body, it becomes clean, and symptoms get relieved. The action of *Argwadhakwatha* is mild in action; it does not exhaust the body. The patient get 1-3 times lose bowel from 6days after taking kwatha, and after bowel, the patient advised the bland
food. During this procedure, patient get complete evacuation of bowel and freshness and blood pressure, and other examinations are normal. Samayaksidhi Lakshana observed. On the other side, Diabetes is caused due to the excess use of the dairy product and day sleep which is already explains in the samhita which is observed in the patient [9]. Kleda is the symptom found in Madhumeha, in which mala get accumulated in the koshtha and night urination and frequency of urine occurred due to the doshas in bladder [10]. Medvahasrotas is already disturbed, so the durabaly, pipasa, shrumshaws and kshudhadhikya, swedadhikya observed [11]. Argwadha kwatha nitya virechana removes the doshas and lowered the blood sugar level and symptoms [12].

3.1 Probable Mode of Action of Nitya Virechana

Nitya virechana is a concept and type of Virechana. It is mentioned for the treatment where bahudoshavastha condition [13, 14, 15] and madhumeha is a bahudosa disease. for the patient who has the vitiating doshas and is present in the koshthas. In Madhumeha the doshas are vitiating and present in koshthas. Nityavirechana can be the effective way to lowered the doshas quantity and breaking of pathophysiology. It is the treatment in which the body is cleaned through evacuating the watery content and pitta, mala, kappa, vata in Madhumeha already the liquid content (kleda) is excess [16]. Administering Argwadha kwatha which is chosen for nityavirechana is responsible for removing doshas sedimented in koshtha. Madhumeha has the main symptom of vibandha; due to this, the mala accumulate in the koshtha, and 21 days nitya virechana removes the doshas in madhumeha. Abnormal meda dhatu is the founder of Madhumeha. Excessive kleda in Madhumeha observed and in karma removes the kleda means watery content from the body. It also acts on the vitiating Meda dhatu and as per Vaghbhata draw the vitiating doshas by nearest route [17]. The patient found relief in the symptoms.

3.2 Probable Mode of Action of Argwadha

Argwadha is the laxative drug that causes the doshas to stick on the walls of koshtha to get washed out. It has the mild in action it is not exhausted to the patient, and the property of Argwadha is adhobhaghar shodhan as per Samhita. In the Madhumeha, the doshas accumulated in the koshtha in the lower region, so it evacuated the doshas. As per modern the Argwadha is Antilipidic as well as the antidiabetic. In the patient of the above case, the patient shows the reduced blood sugar level and HbA1c and the lipid profile. By the virechaka property of Argwadha, the doshas wash out slowly, so the subjective criteria get the effective result. Few of the related studies were reviewed [18-20]. Khatib et.al. reflected on M-Health intervention for type II diabetes mellitus patients in Indian rural areas[21]. Belsare et.al. reported a study on prevalence of non-insulin dependent diabetes mellitus in different types of prakrutin Wardha city [22]. Gaidhane et.al. reviewed on perceptions of primary care doctors towards type 2 diabetes mellitus [23]. Shrivastava et.al. reported about assessment of Mean Platelet Volume (MPV) in subjects with type 2 diabetes mellitus [24].

4. CONCLUSION

Madhumeha is occurs due to the Dhatukshay or Margavrodha. On the above patient, Margavrodha observed. Due to the kleda and Vibandha mala get accumulated in the channel and Madhumeha symptoms are seen. In Madhumeha, doshas collected in the lower part of the body and is the nearest route to remove this kleda and obstructed stick doshas through the bowel. Argwadhakwatha Nitya virechana is a promising treatment seen in the Diabetes. The patients elevated blood sugar level gets down to normal, and the hyperlipidemia becomes normal. The main effect on the HbA1c down towards the normal. The subjective criteria of Madhumeha get relieved by this procedure. Obstruction of the channel due to doshas get washed out through bowel, and the symptoms are relieved. At the same patient, get relief in subjective and investigative criteria. Further studies on the same conducted on more patients are necessary for more illumination on the Madhumeha.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.
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Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/70546