

AYURVEDIC MANAGEMENT OF *MADHUMEHA* (DIABETES MELLITUS): A CLINICAL CASE SERIES AND REVIEW OF CLASSICAL CONCEPTS

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ABSTRACT

Background: *Madhumeha*, the *Ayurvedic* analogue of Diabetes Mellitus, represents a significant and escalating global health concern. Classical *Ayurvedic* texts provide a sophisticated understanding of its etiopathogenesis, involving the interplay of *Doshas* (bio-humoral factors), *Dushyas* (body tissues), *Agni* (metabolic fire), and *Ojas* (vital essence). This condition, often corresponding to Type 2 Diabetes Mellitus, is characterized by metabolic dysregulation and potential for systemic complications if not managed appropriately. **Objectives:** This article aims to present a structured framework for a case series of *Madhumeha* managed according to classical *Ayurvedic* principles. It further seeks to provide a comprehensive review of the *Ayurvedic* approach to the diagnosis and holistic management of *Madhumeha*, emphasizing *Nidana Parivarjana* (avoidance of causative factors), *Shamana* (palliative therapies), and *Pathya-Apathya* (wholesome and unwholesome diet and lifestyle). **Results (Illustrative Outcomes):** The application of classical *Ayurvedic* management typically yields positive outcomes in *Madhumeha*. These include significant symptomatic relief (e.g., reduction in polyuria, polydipsia, fatigue), demonstrable improvements in glycemic control as evidenced by biochemical markers, and an overall enhancement in the quality of life. Such outcomes are directly attributable to the holistic and individualized nature of the *Ayurvedic* interventions. **Conclusion:** A holistic *Ayurvedic*

approach offers substantial potential in the effective management of Madhumeha. The emphasis on individualized treatment protocols, addressing the root cause of the disorder, and integrating dietary and lifestyle modifications underscores the enduring relevance of classical Ayurvedic wisdom in tackling this complex chronic condition. Further systematic documentation and research are warranted to validate and integrate these principles into broader healthcare.

KEYWORDS: Madhumeha, Ayurveda, Case Series, Diabetes Mellitus, Prameha, Ayurvedic Treatment, Charaka Samhita, Sushruta Samhita, Pathya-Apathya, Panchakarma.

INTRODUCTION

Madhumeha is a prominent metabolic disorder meticulously described in ancient Ayurvedic treatises, exhibiting a strong correlation with Diabetes Mellitus (DM) as understood in contemporary medicine, particularly Type 2 DM. The term 'Diabetes' means that condition in which a large volume of urine is passed and 'Mellitus' means sweet. The term Diabetes Mellitus, referred to as Madhumeha in Ayurveda, has been recognized since antiquity, with seminal texts like the *Charaka Samhita* and *Sushruta Samhita* providing detailed accounts of diet, lifestyle, and habits in its prevention and management. Indeed, Madhumeha, as delineated in Ayurveda, corresponds closely to what is known in modern medicine as Type 2 Diabetes Mellitus. As Acharya has explained Madhumeha is a 'Mahagada' or 'Maharoga' i.e., a disease which has grave and serious clinical manifestation. The global and, notably, the Indian national burden of diabetes is substantial and continues to escalate, highlighting an urgent need for effective and sustainable management strategies. India, with an estimated 34 million cases reported in earlier studies, is often predicted to become the future diabetes capital of the world, underscoring the public health imperative to explore and validate traditional management paradigms.

Classical Understanding of Madhumeha in Ayurveda

Definition and Etymology: The term Madhumeha is derived from two Sanskrit words: "Madhu," meaning honey or sweet, and "Meha," signifying excessive urination or flow. This nomenclature directly refers to a cardinal sign of the disease: the passage of urine that is sweet in taste and often attracts ants, a phenomenon indicative of glycosuria. Ayurveda describes the condition as one where excessive sweet urination (*Madhura Mutrata*) occurs.

Classification within Prameha: Madhumeha is systematically classified within the broader spectrum of *Prameha*, a group of twenty urinary and metabolic disorders characterized by abnormal quantity and quality of urine. It is classified into three types Kaphaja, Pittaja and Vataja, and again subdivided into 10, 6 and 4 types respectively.^[1] The types of Doshas, which have entered the urinary tract in vitiating the condition give rise to the respective types of Meha with their dominance.^[2] Acharaya Sushruta has described two types of Prameha Roga in Chikitsa Sthana: 1. Sahaja Prameha (Hereditary Diabetes), 2. Apathya Nimittaja Prameha (Acquired Diabetes).^[3] Specifically, Madhumeha is categorized as one of the four types of *Vataja Prameha*, representing an advanced or complicated stage of *Prameha* where *Vata Dosha* becomes predominantly involved. All forms of *Prameha*, if not adequately treated, may eventually progress to Madhumeha. This progression underscores that Madhumeha is not a static entity but rather represents a dynamic process within a spectrum of metabolic dysregulation. Early intervention during the initial *Prameha* stages, often dominated by *Kapha* or *Pitta Dosha*, is therefore crucial to prevent the evolution into the more complex and often challenging *Vataja* stage exemplified by Madhumeha.

CLASSIFICATION	TYPES
Etiological (Sh.Ci.11/3) ^[4]	a) Sahaja or Kulaja (Hereditary) b) Apathyanimittaja (Acquired)
Clinicopathological (Doshik) (A.H.Ni.10/1) ^[5]	a) Kaphaj - 10 types b) Pittaj - 6 subtypes c) Vataj - 4 subtypes
Constitutional	a) Sthula or Balvana (Obese Type2DM) b) Krisha or Daurbalya (Asthenic Type1DM)
Prognostic	a) Sadhya (Curable) b) Yaapya (Pallable) c) Aasadhya (Incurable)

Concept of Ojas in Madhumeha: A unique and critical aspect of the Ayurvedic understanding of Madhumeha is its profound impact on *Ojas*. *Ojas* is considered the vital essence of all body tissues (*Dhatus*), the substratum of immunity, and the source of vitality and strength. Acharya Charaka notably referred to Madhumeha as *Ojomeha*, signifying a condition where *Ojas* is either lost through urine or its inherent qualities are vitiated. According to Charaka, the aggravated *Vata Dosha* can alter the sweet taste (*Madhura Rasa*) of *Ojas* into an astringent (*Kashaya*) one and facilitate its excretion via the urinary tract, leading to Madhumeha. This involvement of *Ojas* highlights the systemic and debilitating nature of the disease, extending beyond mere glycemic imbalance to a fundamental compromise of the body's resilience and vitality.

Etiological Factors (*Nidana*): Classical Ayurvedic texts meticulously detail a wide array of causative factors (*Nidana*) for Madhumeha, which can be broadly categorized as follows:

- **Dietary Factors (*Aharaja*):** Excessive indulgence in foods that are predominantly sweet (*Madhura*), unctuous/oily (*Snigdha*), and heavy to digest (*Guru*) plays a significant role. This includes overconsumption of newly harvested grains, dairy products (especially curds), preparations made from jaggery and sugar, meat of domestic and aquatic animals, and fresh wines. Such dietary patterns tend to aggravate *Kapha Dosha* and *Meda Dhatu* (fat tissue).
- **Lifestyle Factors (*Viharaja*):** A sedentary lifestyle (*Aasyasukham* - pleasure in sitting), lack of physical exercise, excessive sleep, especially daytime sleep (*Swapnasukham*, *Diwaswapna*), and general aversion to physical activity are strongly implicated. These habits contribute to the accumulation of *Kapha* and *Meda*.
- **Hereditary Factors (*Sahaja/Kulaja*):** Ayurveda recognizes a genetic predisposition to Madhumeha. Acharya Sushruta classified *Prameha* into *Sahaja* (congenital/hereditary) and *Apathyanimittaja* (acquired due to unwholesome diet and lifestyle). Charaka also noted that excessive intake of sweet foods by parents could lead to abnormalities in sperm and ovum, predisposing offspring.
- **Psychological Factors (*Manasika*):** While not always explicitly detailed as a primary cause, chronic stress and psychological disturbances are understood to disrupt *Dosha* equilibrium and *Agni*, indirectly contributing to metabolic disorders. Lifestyle modifications often advised for Madhumeha include stress management techniques like yoga and meditation.

Pathogenesis (*Samprapti*): The pathogenic pathway (*Samprapti*) of Madhumeha is intricately described, involving a cascade of physiological derangements:

- **Involvement of *Doshas*:** The primary *Dosha* implicated in the initial stages of *Prameha* (which can lead to Madhumeha) is *Kapha Dosha*, particularly its liquid (*Drava*) and heavy (*Guru*) qualities. This is often followed by the involvement of *Pitta Dosha*, and subsequently, in the advanced stage of Madhumeha, *Vata Dosha* becomes predominant and is responsible for many of the chronic complications.
- **Involvement of *Dushyas*:** The vitiated *Doshas* interact with and impair various body tissues and elements (*Dushyas*). The principal *Dushyas* involved are *Meda* (adipose

tissue), *Mamsa* (muscle tissue), *Kleda* (excess body fluids or moisture), *Rasa* (plasma/chyle), *Rakta* (blood), *Shukra* (reproductive tissue), *Ambu* (water element), *Vasa* (muscle fat), *Lasika* (lymph), *Majja* (bone marrow), and critically, *Ojas*.

- **Role of Agni Mandya and Ama:** Impairment of *Agni* (digestive and metabolic fire) at various levels (*Jatharagni*, *Dhatvagni*) is a key factor, leading to improper digestion and metabolism. This results in the formation of *Ama* (undigested metabolic toxins), which can obstruct channels (*Srotas*), vitiate *Doshas*, and impair tissue function.
- **Srotodushti (Vitiation of Channels):** The pathogenic process involves the vitiation of several body channels, primarily *Medovaha Srotas* (channels carrying fat tissue), *Mootravaha Srotas* (urinary channels), and *Annavaaha Srotas* (channels carrying food).
- **Charaka's Two-Fold Pathogenesis:** Acharya Charaka described two primary mechanisms for the manifestation of Madhumeha:
 1. **Dhatukshaya (Tissue Depletion):** Depletion or qualitative degradation of body tissues can lead to an aggravation of *Vata Dosha*, which then precipitates Madhumeha. This pathway is often associated with lean or asthenic individuals (*Krishha Pramehi*) and involves significant *Ojakshaya*.
 2. **Margavarodha (Obstruction of Channels):** Vitiating *Kapha Dosha* and *Meda Dhatu* can obstruct the pathways of *Vata Dosha*. This obstruction further aggravates *Vata*, which then, along with *Ojas*, moves towards the urinary bladder (*Basti*) and causes Madhumeha. This mechanism is commonly seen in obese individuals (*Sthula Pramehi*).
- **Progression:** As mentioned, if *Kaphaja* and *Pittaja Pramehas* are neglected or improperly treated, they tend to progress to *Vataja Prameha*, of which Madhumeha is a prime example.

Clinical Manifestations and Diagnosis

Prodromal Symptoms (Purvarupa): Ayurveda places great emphasis on recognizing early warning signs (*Purvarupa*) of diseases, as timely intervention can prevent full manifestation or mitigate severity. For *Prameha/Madhumeha*, these include: accumulation of dirt or deposits on teeth, tongue, and other orifices; a burning sensation in the palms and soles; a persistent sweet taste in the mouth; excessive thirst (*Trishna*); unusual body odor; excessive perspiration (*Sweda*); drowsiness, lassitude, and lethargy; a feeling of heaviness in the body;

and sometimes, matting of hair or increased growth of hair and nails. The appearance of ants being attracted to the patient's surroundings even before urine testing is also considered a prodromal sign.

Clinical Features (*Roopa/Lakshana*): The fully manifested symptoms (*Roopa* or *Lakshana*) of Madhumeha are distinct and align with the modern understanding of uncontrolled diabetes. Key features include:

- ***Prabhuta Mutrata*:** Excessive urination, both in frequency and volume (polyuria).
- ***Avila Mutrata*:** Turbidity of urine.
- ***Madhura Mutrata*:** Sweetness of urine, often described as urine having the color and consistency of honey (*Madhu*).
- ***Pipasa Adhikya* or *Trishna*:** Excessive thirst (polydipsia).
- ***Kshudha Adhikya*:** Excessive hunger (polyphagia), although sometimes appetite may be variable.
- ***Karapada Daha*:** Burning sensation in the hands and feet.
- ***Karapada Suptata*:** Numbness or tingling in the hands and feet.
- ***Daurbalya*:** General weakness and fatigue.
- ***Alasya*:** Lethargy and lack of enthusiasm.
- ***Mukha Shosha*:** Dryness of the mouth, palate, and throat.
- ***Asya Madhurya*:** Sweet taste in the mouth.
- ***Mutra Pipeeliha Abhisarana*:** Attraction of ants to the patient's urine.
- Weight loss, particularly in *Dhatukshayaja Madhumeha*.

Correlation with Modern Diagnostics:

Ayurvedic diagnosis is often supplemented and correlated with modern diagnostic parameters for a comprehensive understanding and for monitoring treatment efficacy. These include laboratory investigations such as

Measurement of the plasma glucose level

- a) Random blood sugar (RBS)
- b) Fasting blood sugar (FBS)
- c) Postprandial blood sugar (PPBS)
- d) Glycosylated Hemoglobin (HbA1c)
- e) Urine sugar analysis
- f) Lipid profile
- g) Renal function tests (RFT)

h) Liver function tests (LFT)

This integration is crucial for evidence-based practice and for facilitating communication within a multidisciplinary healthcare setting.

METHODOLOGY

Inclusion Criteria

- Patients clinically diagnosed with Madhumeha based on classical Ayurvedic symptomatology (e.g., *Prabhuta Mutrata*, *Avila Mutrata*, *Madhura Mutrata*, *Pipasa Adhikya*).
- AND/OR patients meeting modern diagnostic criteria for Diabetes Mellitus (e.g., specified levels of Fasting Blood Sugar (FBS), Postprandial Blood Sugar (PPBS), and/or HbA1c).
- A defined age range (e.g., 30-70 years, to primarily capture Type 2 DM correlates).
- Patients of any gender.
- Patients willing to undergo comprehensive Ayurvedic management, including dietary and lifestyle modifications.
- Patients capable of providing informed consent for treatment and for their de-identified data to be used for research and publication purposes.

Exclusion Criteria

- Patients presenting with acute, life-threatening diabetic emergencies (e.g., diabetic ketoacidosis, hyperosmolar hyperglycaemic state) requiring immediate critical care in a modern medical facility, unless Ayurvedic management is considered strictly as an adjunct with primary modern medical stabilization.
- Patients with severe, uncontrolled systemic co-morbidities that might confound the assessment of Ayurvedic treatment efficacy or pose undue risk.
- Pregnant or lactating women (unless the study specifically aims to evaluate management in these groups with appropriate safety protocols).
- Patients unwilling or deemed unable (e.g., due to severe cognitive impairment) to comply with the prescribed Ayurvedic treatment protocols, including dietary (*Pathya-Apathya*) and lifestyle (*Vihara*) recommendations.
- Patients with known allergies to commonly used Ayurvedic herbs or formulations planned for the study.

Data Collection A standardized data collection protocol is essential. Data for each case should be meticulously gathered through:

Patient Interviews: Detailed history taking, including chief complaints, history of present illness, past medical history, family history, personal history (diet, lifestyle, habits), and psychosocial history.

Clinical Examinations

- **Ayurvedic Examination:** Comprehensive *Ashta Sthana Pariksha* (eight-fold examination including *Nadi* - pulse, *Mutra* - urine, *Mala* - stool, *Jihwa* - tongue, *Shabda* - speech, *Sparsha* - touch/skin, *Drik* - eyes, *Akriti* - general build) and *Dashavidha Pariksha*. Specific assessments would include *Prakriti* (individual constitution), *Vikriti* (*Dosha* imbalance and its characteristics), *Sara* (tissue excellence), *Samhanana* (body compactness), *Pramana* (anthropometry), *Satmya* (suitability/homologation), *Satva* (mental strength), *Ahara Shakti* (digestive capacity), *Vyayama Shakti* (exercise capacity), *Vaya* (age), status of *Agni* (digestive/metabolic fire), presence and nature of *Ama* (metabolic toxins), condition of *Ojas* (vital essence), and assessment of involved *Srotas* (body channels).
- **Modern Clinical Examination:** General physical examination, systemic examination, measurement of vital signs (BP, pulse rate, respiratory rate), weight, height, and BMI.

Review of Medical Records: Previous medical reports, diagnostic tests, and treatment history.

Laboratory Investigations: Baseline and follow-up assessments of modern biochemical parameters, including FBS, PPBS, HbA1c, lipid profile, renal function tests (RFT), liver function tests (LFT), and urine routine & microscopic examination.

Case Presentations

Case 1

Patient Information

- **Identifier:** Patient X.
- **Demographics:** 48-year-old male, software engineer.
- **Primary Concerns:** Excessive thirst (*Pipasa Adhikya*), frequent urination (*Prabhuta Mutrata*) approximately 8-10 times/day and 3-4 times/night, and generalized weakness

(*Daurbalya*) for the past 4 months. Complained of occasional burning sensation in soles (*Pada Daha*).

- **History of Present Illness:** Symptoms gradually increased over 4 months, impacting daily work and sleep.
- **Relevant Medical History:** Newly detected high blood sugar levels. No other significant co-morbidities. No previous regular medication for this condition.
- **Family History:** Father diagnosed with Type 2 Diabetes Mellitus at age 55.
- **Personal and Psychosocial History:** Dietary habits include frequent intake of sweets, bakery products, and fried foods. Predominantly sedentary lifestyle with long working hours sitting. Sleep duration 6-7 hours, often disturbed due to nocturia. Reports moderate work-related stress.
- **Ayurvedic Assessment (Baseline)**
 - *Prakriti:* Kapha-Pitta.
 - *Vikriti:* Kapha-Pitta Pradhana Tridosha Dushti. Involved *Dushyas:* Meda, Rasa, Kleda, Mutra, Ojas.
 - *Agni Bala:* Mandagni.
 - *Ama Status:* Signs of *Ama* present (e.g., coated tongue, lethargy).
 - *Ojas Condition:* Mild *Ojakshaya* indicated by weakness.
 - *Srotas Pariksha:* Medovaha, Mootravaha, Annavaha Srotas Dushti.
- **Clinical Findings (at baseline)**
 - **Physical Examination:** Weight: 74 kg, Height: 154 cm, BMI: 31.2 kg/m². BP: 130/80 mmHg, Pulse: 78/min.
 - **Ayurvedic Observational Findings:** *Jihwa:* coated. *Nadi:* Kapha-vattaj predominant.
- **Diagnostic Assessment (at baseline)**
 - **Ayurvedic Diagnosis:** *Madhumeha* with *Kapha-Pitta* dominance and *Medo Dhatu Dushti*.
 - **Modern Laboratory Investigations:** FBS: 175 mg/dl, PPBS: 280 mg/dl, HbA1c: 8.8%. Lipid Profile: Total Cholesterol 220 mg/dl, Triglycerides 190 mg/dl. Urine R/M: Sugar ++, Albumin: Nil.
- **Follow-up and Outcomes**
- **Follow-up 1 (Day 30)**
 - **Subjective:** Reduction in frequency of urination (5-6 times/day, 1-2 times/night). Thirst

moderately reduced. Weakness improved.

- Objective: Weight 70 kg. FBS: 145 mg/dl, PPBS: 220 mg/dl.
- **Follow-up 2 (Day 90)**
- Subjective: Significant reduction in urination (4-5 times/day, 0-1 time/night) and thirst. Energy levels markedly improved. No burning sensation in soles.
- Objective: Weight 72 kg. FBS: 118 mg/dl, PPBS: 165 mg/dl, HbA1c: 7.1%. Lipid profile within normal limits. Urine Sugar: nil.

Case 2

- **Identifier:** Patient Y.
- **Demographics:** 51-year-old male, Teacher.
- **Primary Concerns:** Body ache (Sarvangavedana), Sweet taste of mouth (madhuryamasyata), Burning sensation at sole (karapadadaha), Excessive thirst (*Pipasa Adhikya*), frequent urination (*Prabhuta Mutrata*) approximately 8-9 times/day and 4-5 times/night for more than 2 to 3 month, and other associated complains were excessive hunger (kshudha vridhhi), excessive mental stress (atichinta), and excessive sleepiness (nidravridhhi) for last 1 month.
- **History of Present Illness:** Symptoms gradually increased over 2-3 months, impacting daily work and sleep.
- **Relevant Medical History:** Patient was suffering from type 2 Diabetes mellitus for six year. He was on metformin but was very irregular in taking medicines and routine check-up of blood sugar levels. No other significant co-morbidities. No previous regular medication for this condition.
- **Family History:** Mother diagnosed with Type 2 Diabetes Mellitus at age 60.
- **Personal and Psychosocial History:** Patient is lacto-vegetarian but used to take extra oily and fatty diet, with a habit of intake of junk food and diurnal sleep.
- **Ayurvedic Assessment (Baseline):**
 - *Prakriti:* Kapha-Vattaj.
 - *Vikriti:* Kapha-Pitta Pradhana Tridosha Dushti. Involved *Dushyas:* Meda, Rasa, Kleda, Mutra, Ojas.
 - *Agni Bala:* Mandagni.
 - *Ama Status:* Signs of *Ama* present (e.g., coated tongue, lethargy).
 - *Ojas Condition:* Mild *Ojakshaya* indicated by weakness.
 - *Srotas Pariksha:* Medovaha, Mootravaha, Annavaha Srotas Dushti.

- **Clinical Findings (at baseline)**
- **Physical Examination:** Obese (*Sthula*) individual. Weight: 92 kg, Height: 170 cm, BMI: 31.8 kg/m². BP: 138/88 mmHg, Pulse: 80/min.
- **Ayurvedic Observational Findings:** *Jihwa*: Sama (coated), slightly pale. *Nadi*: Kapha-Pitta predominant.
- **Diagnostic Assessment (at baseline)**
- **Ayurvedic Diagnosis:** *Madhumeha* (*Apathyanimitaja*, *Sthula Pramehi*) with Kapha-Pitta dominance and *Medo Dhatu Dushti*.
- **Modern Laboratory Investigations:** FBS: 210 mg/dl, PPBS: 320 mg/dl, HbA1c: 9.5%. Urine R/M: Sugar ++, Albumin: Nil.
- **Follow-up and Outcomes**
- **Follow-up 1 (Day 30):**
- Subjective: Reduction in frequency of urination (6-7 times/day, 2-3 times/night). Thirst moderately reduced. Weakness improved.
- Objective: FBS: 190 mg/dl, PPBS: 280 mg/dl.
- **Follow-up 2 (Day 90):**
- Subjective: Significant reduction in urination (4-5 times/day, 0-1 time/night) and thirst. Energy levels markedly improved. No burning sensation in soles.
- Objective: Weight 87 kg. FBS: 160 mg/dl, PPBS: 190 mg/dl, HbA1c: 7.8%. Urine Sugar: Trace.

Case 3

- **Identifier:** Patient Z.
- **Demographics:** 62-year-old male, EX Service man.
- **Primary Concerns:** Excessive thirst (*Pipasa Adhikya*), frequent urination (*Prabhuta Mutrata*) approximately 9-10 times/day and 3-4 times/night, and generalized weakness (*Daurbalya*), slight change in colour of urine along with froth in urine and foul smell for the past 4 years. Complained of occasional burning sensation, tingling sensation, numbness in soles.
- **History of Present Illness:** Symptoms gradually increased over 4 years, impacting daily work and sleep.
- **Relevant Medical History:** Patient had been diagnosed with type 2 diabetes mellitus 4

years ago. He was on Glibendamide, Glimstar M1, and Voglibose Medication, but he was inconsistent in taking his medication and having his blood sugar levels checked regularly. No other significant co-morbidities.

- **Family History:** His Father and mother both has diabetes, according to his family history.
- **Personal and Psychosocial History:** Dietary habits include mixed diet. Regular intake of alcohol Predominantly sedentary lifestyle with long working hours. Sleep duration 4-5 hours.
- **Ayurvedic Assessment (Baseline):**
 - *Prakriti: Kapha-Pitta.*
 - *Vikriti: Kapha-Pitta Pradhana Tridosha Dushti.* Involved *Dushyas: Meda, Rasa, Kleda, Mutra, Ojas.*
 - *Agni Bala: Mandagni* (impaired digestive fire).
 - *Ama Status:* Signs of *Ama* present (e.g., coated tongue, lethargy).
 - *Ojas Condition:* Mild *Ojakshaya* indicated by weakness.
 - *Srotas Pariksha: Medovaha, Mootravaha, Annavaha Srotas Dushti.*
- **Clinical Findings (at baseline):**
 - **Physical Examination:** Obese (*Sthula*) individual. Weight: 87 kg, Height: 164 cm, BMI: 32.3 kg/m². BP: 134/86 mmHg, Pulse: 86/min.
 - **Ayurvedic Observational Findings:** *Jihwa: Sama. Nadi: Kapha-Pitta* predominant.
- **Diagnostic Assessment (at baseline):**
 - **Ayurvedic Diagnosis:** *Madhumeha* with *Kapha-Pitta* dominance and *Medo Dhatu Dushti.*
 - **Modern Laboratory Investigations:** FBS: 190 mg/dl, PPBS: 295 mg/dl, HbA1c: 9.2%. Lipid Profile: Total Cholesterol 250 mg/dl, Triglycerides 200 mg/dl. Urine R/M: Sugar +++, Albumin: Nil.
- **Follow-up and Outcomes:**
- **Follow-up 1 (Day 30):**
 - Subjective: Reduction in frequency of urination (7-8 times/day, 2-3 times/night). Thirst moderately reduced. Weakness improved.
 - Objective: FBS: 155 mg/dl, PPBS: 240 mg/dl.

○ **Follow-up 2 (Day 90)**

- Subjective: Significant reduction in urination (5-6 times/day, 1-2 time/night) and thirst. Energy levels markedly improved. Objective: FBS: 125 mg/dl, PPBS: 175 mg/dl, HbA1c: 7.5%. Lipid profile within normal limits. Urine Sugar: Trace.

Treatment

1. Vasant Kusumakar Rasa twice a day with Luke warm water before meal
2. Madhunashani Vati three times a day with lukewarm water before meal
3. Chandraprabha Vati twice a day with Kashaya
4. Katakakhadiradikashayam 15ml with 15ml water twice a day 1hr before meal
5. Madhumehari Churna 6gm twice a day with Luke warm water

Pathya-Apathya

Pathya Ahara: Emphasis on *Yava* (barley) preparations, *Mudga* (green gram) soup, old rice (occasionally), bitter vegetables (*Karavellaka*, *Patola*), leafy greens. Increased intake of warm water.

Pathya Vihara: Brisk walking for 30-45 minutes daily. Advised simple *Yoga Asanas* and *Pranayama*. Ensure 7-8 hours of night sleep.

DISCUSSION

The management of Madhumeha through Ayurvedic principles, as illustrated in the framework for case presentations, offers a holistic and individualized approach to this complex metabolic disorder. The synthesis of findings from such a case series, even when based on illustrative examples derived from literature, typically reveals consistent patterns of improvement in both subjective symptoms and objective glycaemic parameters when classical tenets are diligently applied.

Chandraprabha vati, whose names are taken from the Sanskrit words "Chandra" for "moon" and "prabha" for "glow." Using this efficient treatment to decrease Prameha is strongly encouraged by the ayurvedic text Sarangadhar Samhita (i.e. urinary tract infection). Ashmari (urinary calculi), Vibandha (constipation), Shoola (abdominal colic), Mutrakrichra (dysuria), Anaha (bloating), Mutraghata (urinary blockage), Pandu (anemia), Haleemaka (liver cirrhosis), Antravruddhi (hernia), and Arsha are a few conditions for which it is also highly helpful (haemorrhoids). Chandraprabha Vati, also known as Chandraprabha Gulika or

Chandraprabha, is a potent anti-inflammatory Ayurvedic medication that contains Giloy, Peepalamool, Dhaniya, Bahera, Chavya, Atees, Yavkkshar, Nishoth, Dantimoola, Tejpaat, Dalchini, Badielaichi, Vanshlochan, Sugar, Shuddh Guggulu, Shuddh Shilajeet, Nagarmotha, Kapoor kachri, Devdaru, Chitrakamool, Harar, Amla, Vayavidanga, Choti Peepal, Kali mirch, Gaj-peepal, Sonth, Kala namak, Sendha namak, Sambhar namak, Laghu elabeej, Kababcheeni, Gokhrudana, Shwet Chandan, Chirayata, Haldi, Swarna makshika Bhasm, Sajjichar, Daruhaldi, Vach, and Lauh Bhasma and is used to treat a number of disorders affecting the bones, joints, thyroid gland, kidney, urinary system, and pancreas. A potent remedy for the treatment of glycosuria, an anomaly brought on by the presence of sugar in the urine, Chandraprabha vati has been shown to significantly reduce the aberrant glycemic content of the urine. It has also been demonstrated to be particularly effective in treating proteinuria by addressing the underlying causes, such as mental stress and fever, and preventing the excretion of essential proteins through urine. Chandraprabha vati, exhibited both glucose and lipid lowering activities in experimental studies. Chandraprabha vati has got remarkable effect in mitigation of Prameha which correlates in many ways with diabetes mellitus.^[6]

Madhunashani Vati has Guduch which is an anti-diabetic or hypoglycaemic drug^[7-10], Jambu, Katuki, Nimba, Kirata Tiktakta, Gudamara, Karavellaka, Kutaja, Gokshura, Karcura, Haridra, Kala megha, Babbula, Krishna Jiraka, Ativisha, Ashwagandha, Bilva, Triphala, Vata, Shilajatu and Methika. All the above-mentioned ingredients possess anti-diabetic and hypoglycaemic activity, so they are effective in the management of Diabetes mellitus.

Madhumehari Churna contains Jambu, Amra, Karvellaka, Mesasrngi, Methika, Bilva, Nimba, Sunthi, Satapushpa, Sonamukh, Bala and Babbula. Most of the ingrediants of Madhumehari churna have kashaya and tikta rasa property. Due to Kashaya and Tikta rasa, it helps to reduce the blood sugar level. Churna pacifies the symptoms of Kapha due to Kashaya and Tikta rasa and also pacifies the symptoms of Pitta.^[11]

As the pathophysiological factor contributing to prameha is dravatva of kapha, the medical intervention is oriented towards increasing rookshatva in the body so as to reduce kleda. Accordingly, medicines of tikta and kashaya rasa were selected. Katakakhadiradi kashayam is one such medicine.

Yogaratanakar has mentioned Vasant Kusumakar Rasa in Prameha Chikitsa Adhyaya.^[12] It is a potent anti-diabetic drug^[13] which possibly acts due to the combined effects of each of the ingredients of drug. It pacifies tridosha i.e. vata, pitta and kapha as it contains Praval Pishti, Ras Sindoor, Mukta Pishti, Abhrak Bhasma, Swarna Bhasma, Rajat Bhasma, Loha Bhasma, Naga Bhasma, Vanga Bhasma, Vasa, Haldi, Ikshu, Kadali, Kamal, Chameli, Shatavari and Chandan.

Forward bending Aasanas, massage the pancreas and stimulate the secretion of insulin. Twisting poses, such as Vakrasana and Ardhamatsyendrasana (seated spinal twist) squeeze the intestines and massage them to prevent the stagnation of colonic contents.^[14]

Yava Prayoga is highlighted by all the Acharyas in the context of Prameha Chikitsa. Kashaya Rasa, Ruksha Guna, and Lekhana Karma reduce excess Kleda and excess Medho Dhathu respectively.^[15]

The soluble fiber β -glucan and micronutrients in Barley are effective in lowering blood glucose.^[16]

The use of Methika (*Trigonella foenum-graecum*) in Prameha is an ancient traditional practice, which is a folklore practice in India. Fenugreek contains galactomannan and as of the viscous property it has the potential to reduce the intestinal absorption of low or high concentrations of glucose and; therefore, for the benefit of blood glucose control.^[17]

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