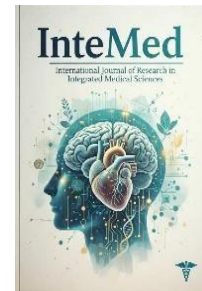




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Case Study

Management of Type 2 Diabetes Mellitus by Ekal Dravya: A Case Study

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Abstract: Diabetes mellitus is one of the most common metabolic disorders. Type 2 diabetes mellitus is associated with a variable degree of tissue insulin resistance, leading in the early stages to hyperinsulinaemia and subsequently to relative insulin deficiency as pancreatic islet-cell function fails to overcome this resistance. The cardinal symptoms of diabetes mellitus include polyuria, polydipsia and polyphagia. These features can be correlated with Prameha from an Ayurvedic perspective. A 61-year-old female patient presented to Smt. K. G. Mittal Ayurvedic Hospital, Charni Road, with *Prabhuta Mutra*, *Kshudha Adhikya*, *Nidradhikya* and *Tandra* for five months. Investigations and clinical history were consistent with diabetes mellitus. Management was undertaken with a single Ayurvedic drug, *Aamra* bark, along with dietary and lifestyle modification. Over the three-month observation period, improvement was observed in the reported symptoms and in fasting blood glucose, postprandial blood glucose, HbA1c and urine glucose findings.

Keywords: *Prameha*, *Aamra* bark, Type 2 diabetes mellitus, *Mangifera indica* Linn., Mangiferin

Introduction

Diabetes mellitus is a metabolic disorder characterized by abnormal carbohydrate and lipid homeostasis, leading to elevation of plasma glucose (hyperglycaemia) and abnormalities of serum lipids (dyslipidaemia). Diabetes can be classified according to its pathogenesis into type 1 diabetes, associated with insulin deficiency owing to autoimmune pancreatic islet-cell dysfunction, and type 2 diabetes, which involves a variable degree of tissue insulin resistance. The manuscript cites contemporary global and Indian prevalence estimates and describes the increasing burden of diabetes.

In Ayurveda, Prameha is described in relation to involvement of the three *Doṣas* and multiple *Duṣyas*, including *Meda*, *Kleda*, *Rasa*, *Rakta*, *Māmsa*, *Majjā* and *Ojas*. Clinical features described in the manuscript include *Prabhuta Mutrata*, *Avila Mutra*, *Kshudha Adhikya*, *Sharira Gaurava*, *Mukha Madhurya* and related features. Along with medicines, Ayurveda emphasizes Pathya-Apathya and lifestyle modification in management.

Case Report

A 61-year-old female patient attended Smt. K. G. Mittal Ayurvedic Hospital on 4 April 2025 at 12:15 pm with complaints of *Prabhuta Mutra*, *Avila Mutra*, *Kshudha Adhikya*, *Nidradhikya* and *Tandra* for five months. The patient was freshly diagnosed with diabetes mellitus five months previously and was not taking allopathic medication. She had undergone fasting blood sugar (FBS), postprandial blood sugar (PPBS), HbA1c and urine glucose investigations. No relevant comorbidity was reported. Family history of diabetes was present in a brother. There was no reported drug allergy or addiction history. Dietary history included non-vegetarian food twice weekly and excessive intake of sugar, coffee and sweets. The OPD number was 2025/04644 under the Department of *Kayachikitsa*.

General Examination

Parameter	Finding
Temperature	97.4 °F
Pulse rate	80/min
Blood pressure	130/90 mmHg
Respiratory rate	13/min
Parameter	Finding
Height	5.2 feet
Weight	60 kg
General condition	Good
Pallor / cyanosis / icterus / oedema	None

Ashtavidha Pariksha

Examination	Finding
<i>Nadi</i>	<i>Madhyama bala</i>
<i>Mala</i>	<i>Snigdh</i>
<i>Mutra</i>	<i>Shveta and Prabhuta; frequency 6 times/day and 2 times/night</i>
<i>Jihva</i>	<i>Shvetabha</i>
<i>Shabda</i>	<i>Snigdha</i>
<i>Sparsha</i>	<i>Sheeta</i>
<i>Druk</i>	<i>Normal</i>
<i>Akruti</i>	<i>Normal</i>

Dashavidha Pariksha and Srotas Pariksha

Prakṛti: *Vāta-Pitta*; *Sāra*: *Rakta-sāra*; *Samhanana*: *Madhyama*; *Sātmya*: *Āhāra-yogya*; *Sattva*: *Madhyama*; *Āhāraśakti*: *Madhyama*; *Vyayāmaśakti*: *Avara*; *Vaya*: *Madhyama*; *Koṣṭha*: *Madhyama*.

Annavaha Srotas: *Annanabhilashi*. *Rasavaha Srotas*: *Tandra*. *Mutravaha Srotas*: *Prabhuta Mutrata* and *Avila Mutrata*. *Swedavaha Srotas*: *Sweda Adhikya* with foul smell.

Assessment Criteria

Objective criteria: Fasting and postprandial blood glucose were assessed during follow-up; HbA1c was assessed at baseline and at three months; urine glucose was also assessed. Subjective criteria: *Pipasa Vriddhi*, *Prabhuta Mutrata*, *Kshudha Adhikya*, *Avila Mutrata*, *Nidradhikya* and *Swedadhikya* were graded according to the assessment scale used in the original case report.

Material and Method

Parameter	Details
Drug	<i>Aamra bark (Mangifera indica Linn.)</i>
Dose	2.5 g per dose
Frequency	Twice daily
Total daily dose	5 g/day
<i>Anupana</i>	<i>Ushna Jala</i>
Time	Before meals
Duration	3 months
Follow-up	Every 15 days

Pathya-Apathya and Lifestyle Modification

Dietary advice: avoid rice and new cereals, fast food, oily food, starchy foods such as potato and yam, cold drinks, *lassi*, curd and excess sweets. Lifestyle advice: 45 minutes of walking, exercise for one hour, and increased physical activity.

Results

Objective Parameters

Investigation	Day 0	Day 30	Day 60	Day 90
Fasting blood sugar	235.7 mg/dL	145 mg/dL	137 mg/dL	132 mg/dL

Postprandial blood sugar	331.8 mg/dL	197 mg/dL	184 mg/dL	171 mg/dL
HbA1c	10.6%	—	—	7.5%
Urine glucose	Present	—	—	Absent

During follow-up, the case report described reduction in the recorded subjective symptoms. *Pipasa*

Vridhhi reduced by approximately two months, *Swedadhikya* improved within 15–20 days, and *Prabhuta Mutrata* improved by approximately two months, according to the original report.

Discussion

According to the Ayurvedic interpretation presented in the case report, *Prameha* is a *Kapha-pradhāna*

Tridoṣaja disorder, with involvement of all three *Doṣas* at different stages. Excessive intake of *Madhura*,

Guru, *Snigdha* and *Picchila* foods together with a sedentary lifestyle is described as contributing to

Agnimandya, *Kapha* vitiation and increased *Kleda*. The principal *Duṣyas* discussed include *Meda*,

Māṃsa, *Kleda*, *Rasa* and *Lasikā*. Vitiating *Kapha* together with these *Duṣyas* is described as producing

Srotorodha and impaired metabolism, while excess *Kleda* is related to urinary manifestations such as *Prabhuta Mutrata* and *Avila Mutrata*.

From a modern perspective, the manuscript discusses possible parallels between *Meda Duṣṭi* and obesity or abnormal lipid metabolism, *Kapha* vitiation and insulin resistance/metabolic syndrome, and *Kleda* with metabolic disturbances associated with persistent hyperglycaemia. These are interpretive correlations rather than measurements directly demonstrated in this single case.

The manuscript also discusses mangiferin, a C-glucosyl xanthone reported in *Mangifera indica*, particularly in leaves, bark, seed kernel and stem bark. It describes reported antidiabetic mechanisms including effects on insulin signalling, GLUT-4 translocation, AMPK, hepatic gluconeogenesis, carbohydrate-digesting enzymes, oxidative stress, inflammatory mediators and lipid metabolism. These mechanisms should be regarded as reported pharmacological evidence and should not be interpreted as having been directly demonstrated in this patient.

Conclusion

In this case, administration of *Aamra* bark together with dietary and lifestyle modification was associated with improvement in the recorded subjective symptoms and reduction in fasting blood glucose, postprandial blood glucose and HbA1c over the three-month observation period. Urine glucose changed from present to absent. The findings are limited to a single case and cannot establish efficacy or causality. Further controlled clinical studies are required to evaluate the efficacy and safety of *Aamra* bark in Type 2 diabetes mellitus.

Limitations

The study was conducted at the college OPD level in a single patient and was limited by the available observation period and case-study design. The original report does not establish a control group or permit separation of the effects of *Aamra* bark from dietary and lifestyle modification.

Declaration of Patient Consent

The original manuscript states that consent was obtained for reporting the case, images and clinical information and that efforts would be made to conceal the patient's identity. Before submission, this statement should be checked against the actual signed consent and revised to identify the patient or legally authorized representative accurately. For an adult patient who personally provided consent, use wording confirming written informed consent from the patient.

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