

A Conceptual Study of Kadaradi Kashaya in The Management of Madhumeha

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Abstract—The prevalence of Diabetes Mellitus (DM) is rapidly increasing worldwide, with India emerging as the “Diabetes Capital of the World.” Although several conventional antidiabetic therapies are available, they often present limitations such as adverse effects, high cost, and inadequate control of disease progression. This has led to an increased global interest in alternative systems of medicine, especially Ayurveda, for safe and effective management of diabetes and its complications. Ayurveda describes Madhumita as a disease comparable to diabetes mellitus, with numerous formulations prescribed for its prevention and management. Among these, Kadaradi Kashaya (or Kadara Khadira Puradi Kashaya) is a classical polyherbal decoction mentioned for its Pramehahara (antidiabetic) properties. Recent pharmacological and clinical studies have demonstrated that ingredients of this formulation exert hypoglycaemic, antioxidant activity, thereby improving the overall quality of life in diabetic patients.

Index Terms—Madhumeha, Diabetes Mellitus, Ayurveda, Kadaradi Kashaya.

I. INTRODUCTION

Hyperglycemia, defined as elevated blood glucose, is a disorder of carbohydrate metabolism caused by absolute or relative insulin deficiency or resistance¹. Diabetes Mellitus (DM) ranks among the 9th leading causes of death globally, drawing attention toward holistic and preventive approaches like Ayurveda, particularly in populations with sedentary lifestyles and metabolic errors. Globally, approximately 463 million individuals have type 2 diabetes Type 2 Diabetes Mellitus (T2DM), with India accounting for 88 million cases. Among them, only 45.6% are aware

of their condition, 36.1% are on treatment, and 5.7% have their diabetes under control. Nearly 25 million people are at risk, giving India a prevalence rate of 11.3%.²

Ayurveda describes Madhumeha, comparable to T2DM, as a Vataja Prameha and a Mahagada. Classical texts, including Aṣṭanga Sangraha (Prameha Chikitsa Adhyaya), recommend Kadaradi Kashaya³ for Vataja Prameha. This polyherbal decoction contains three ingredients: Khadira (Acacia catechu), Kadara (Acacia suma), and Guggulu (Commiphora mukul). Khadira exhibits Medoghna, Mehaghna, and Vata-Kapha hara actions; Kadara shares similar properties, and Guggulu contributes Medoghna and Mehaghna effects. helping to correct metabolic imbalances associated with Madhumeha.

It acts by reducing Kapha, Meda, and Kleda, restoring metabolic balance, and supporting overall health. This article aims to explore the Ayurvedic perspective of Madhumeha and the potential role of Kadaradi Kashaya as a cost-effective, readily available, and natural approach to its management.

II. METHODS AND MATERIAL

Disease Review

Madumeha is classified under vataja prameha by the Bruhatrayas. Sushruta Samhita mentioned as kshoudrameha while explaining vataja prameha, Also he explained a separate chapter for madhumeha chikitsa. Charaka samhita explained in the sutrastana about madhumeha. Ashtanga hridaya and sangraha explained about madhumeha in the context of nidana and chikitsa stana.

Nirukti of the term Madhumeha

Madhu + Meha = Madhumeha is the word formed by 'Madhu' and 'Meha'.

Madhu: is characterised by sweet taste, that which brings contentment to the mind, because of which it is popular among people as madhu.

Meha: Meha is derived from the root Miha, which denotes Sechane (to void),

Paribhasha:

Madhumeha is a Mootradosha, characterized by Bahumootrata (excessive passing of urine) which is similar to Madhu in Rasa or Varna. Madhumeha defined as Clinical entity where the patient passes excess of Mootra which is Kashaya, Madhura, Pandu and Rooksha which are similar to the characteristics of Madhu⁴.

III. NIDANA

The Nidanas or causative factors responsible for the manifestation the disease Madhumeha. Those can be classified as Samanya and Vishesh Nidanas.

Samanya Nidana⁵

- Aharaja – GramyaAnupa, AudakaMamsa, Navanna, Dadhi, GudaVikrita, Shleshma-janakaAhara, Amala, Lavana Rasa, Guru Dravya, Tikta, Katu, Kashaya Rasa.
- Vihara - Asyasukham, Swapna Sukham, Diwaswapna, Avyayayama, Alasya.
- Manasa – Vishada, TyaktaChinta
- BeejaDosha

Vishesh Nidana⁶

- Margavarajanya
- Dhatukshajanya

Margavarana is a result of accumulation of Kapha or pittadosha in the Vatahara srotas. Due to respective Nidana sevana, this leads to Vataja Prameha. In Prameha, Dhatukshaya is an invariable consequence of Aparipakwata of Dhatu.

IV. SAMPRAPTI

Due to Vatakara Nidana, Vata Dosha provokes leading to Kshaya of other two Doshas and Sarabhoota Dhatus like Vasa, Majja, Lasika and Oja. Due to Kshaya of Dhatus Vata further gets provoked. This highly provoked Vata draws Oja towards Basti and leads to Madhumeha⁷. This is Asadhya to treat due to its Arambhaka Dosha Vata and results further provocation due to Dhatukshaya (Ch.Chi. 6/34).

Samprapthighatakas

Dosha – Vata, Pitta, Kapha

Dushya – Meda, Mamsa, Kleda, Rakta, Vasa, Majja, Lasika, Rasa and Ojas.

Srotas – Mootravha Srotodusti – Atipravrutti

Agni – Dhatvagni

Udhhavasthana – Kostha

Vyaktasthana -Mootravahastrotas

Sadyasadyatha- krichrasadya / yapy

V. LAXANA OF MADHUMEHA⁸

- Avila mutrata (turbid urine)
- Medodushtilakshanas are the main symptoms of prameha.
 - Malina danta
 - Hasta padadaha
 - Dehachikkanta
 - Trishna
 - Madhuryamasya
 - Prabhutamutrata
 - Avilmutrata
 - Madhu samana varna
 - Sweda
 - Angagandha
 - Shithilangata
 - Shayana asana Swapna sukha
 - Gala talushosha

VI. KADARADI KASHAYA³

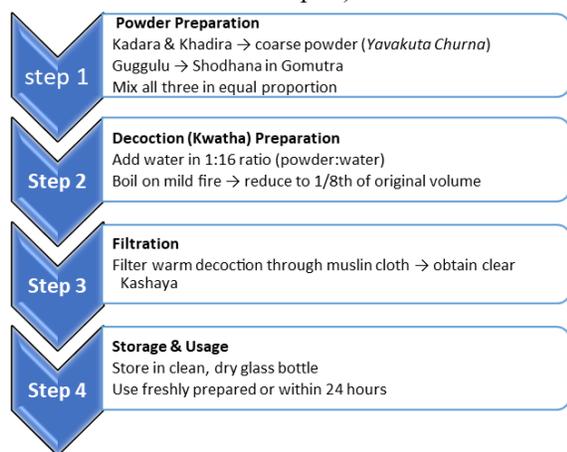
In the management of Madhumeha, Acharya Vagbhata has mentioned Kadaradi Kashaya in Ashtanga Sangraha, under vatajeshu Kashaya preparations. The classical reference states “मधुमेहे कदरखदिरपुरकषायम्॥९॥” (A.S. Chi. 14/9 According to Shashilekha Vyakhya by Indu, this formulation is indicated specifically in Madhumeha (Type 2 Diabetes Mellitus), highlighting its Kapha-Medohara, Kledashoshaka, and Mutrala properties.

मधुमेहे कदरादिकषायम्॥ ९॥-The formulation primarily consists of Kadara (Acacia suma), Khadira (Acacia catechu), and Guggulu (Commiphora mukul). These ingredients possess Kashaya and Tikta Rasa, Laghu and Ruksha Guna, and exhibit Kapha-Vatahara and Medoghna actions. They help to dry excessive Kleda, clear the Srotas, regulate Meda Dhatu metabolism, and normalize Agni, thus breaking the Samprapiti of Prameha.

Table showing Rasa panchaka of the ingredients

Drug Name	Latin Name/family	Part used in madhumeha	Rasa	Virya	Vipaka	Guna	Doshaghanta
Khadira ⁹	Acacia catechu/Mimosaceae	Twak	Tikta, Kashay	Sheet	Katu	Laghu,Ruksha	Kaphapittas hamak
Kadara ¹⁰	Acacia suma/Mimosaceae	Twak	Tikta, Kashay	Sheet	Katu	Laghu,Ruksha	Kaphapittas hamak
Guggulu ¹¹	Commiphora mukul	Niryasa	Katu, tikta	Ushna	katu	Laghu, Sukshma, Tikshna, sara, picchila, snigdha	Vata shamaka

Preparation Method (According to Kwatha Kalpana Principles)



Dose and Anupana

- Dose: 40–50 mL of warm Kashaya, twice daily before food.
- Anupana: Honey or lukewarm water.

VII. PHYTOCHEMICAL ACTIONS OF ACTIVE CONSTITUENTS¹²

Kadara and Khadira.

Active constituent 1. Tannins: Acts topically as astringent to mucosal surfaces and following oral ingestion it consequently gets hydrolysed and alter the fluidity of the bowel contents (so used in anti-diarrheal remedies). They are also attributed with properties. anti-haemorrhagic, anti-inflammatory and antacid

2. Catechin: Have significant antioxidant and antimicrobial effects. It is considered to be the best antioxidant.¹³

3. Flavonoids Increase secretion of insulin and inhibit cyclo-oxygenase and lipoxygenase. Thus, it possesses anti-diabetic and anti-inflammatory effect.¹⁴ Flavonoids in Diabetes usually alternate the diabetes treatment by reducing the aldose reductase, regenerating the pancreatic cells, enhancing insulin release and increasing calcium ion uptake

4. Saponins- Saponins have been found having pharmaceutical properties of anti-inflammatory, anti-fungal, anti-bacterial, antiviral and anti-diabetes. In the aspect of anti-diabetes, saponins activates AMPK in a calcium-dependent manner, thus regulating gluconeogenesis and glucose uptake. Saponins effectively alleviated hyperglycemia in diabetic rats by up-regulating the expression of glucose transporter type4(GLUT4) while down-regulated the expression of G6P in insulin signal pathway

5. Bitter principle- stimulate peripheral and skeletal muscle glucose utilization and inhibites intestinal glucose uptake and shows hypoglycemic effect.

Table showing therapeutic action of Khadira

Aspect	Description / Findings
Ayurvedic Actions	Kaphahara, Medoghna, Mehaghna, Pramehaghna, Vrana-ropana, Mutrasangrahaniya
Anti-obesity Activity	The bark helps maintain healthy fat metabolism and reduces conversion of carbohydrates to fat. In animal studies, Acacia catechu extracts significantly lowered cholesterol and triglycerides in rats fed a high-fat diet containing cholesteryl oleate.
Antidiabetic Activity	Enhances β -cell function and insulin secretion; increases glucose utilization. A variety called Blackbrush aids in weight loss through adrenergic amine-induced β -receptor stimulation, promoting lipid breakdown, increasing metabolism, and curbing hunger.

VIII. GUGGULUTOP OF FORM

Chemical Composition¹⁵

Oleo-resin containing 0.37% essential oil, Diterpene alcohol, Z- guggulsterone, E-guggulsterone 1,2,3,4-tetrol, Sesamin, kaempferol, Lignan, Guggullignans 1 and 2, β -sitosterol, Guggultetrols and ferulic acid, Monocyclic diterpenoids – viz., α -camphorene, camphorene, camphorene- A, three C-27 guggulsterols 1, 2 and 3 (in gum resin)

Pharmacological actions and uses

It is Vata-Kapha Hara, Pitta-Kara, Deepana, Balya, Rasayana, Vrishya and Bhagna-Sandhana-Kara. It is recommended as a drug of choice in the treatment of Medovaha Srotas and Vata diseases. It is advocated in diseases like, Vrana, Apachi, Granthi, Plehodra, Shophya, Arsha, Prameha, Kustha, Gandamala, Rheumatism, Medovaha Roga etc. Apart from this, it has been proved by Tripathi in 1974 to be a potent anti-inflammatory, hypo-lipidemic, hypo-cholesterolemic and anti-atherosclerotic agent in clinical as well as experimental studies.

IX. DISCUSSIONS

Madhumeha is a chronic metabolic disorder characterized by polyuria (Bahumootrata), obesity, impaired glucose metabolism, and systemic complications. Classical texts describe it as a Vātaja Prameha with predominant Kapha aggravation and secondary involvement of Meda and Kleda, leading to Margavarodha and metabolic dysfunction. Modern understanding parallels this, emphasizing insulin resistance, Anti-Dyslipidemic, and oxidative stress as key mechanisms in (T2DM).

Kadaradi Kashaya, a classical formulation mentioned in Aṣṭāṅga Sangraha (Chikitsa Sthana 14, Prameha Chikitsa Adhyaya, verse 9), contains Kadara (Acacia suma), Khadira (Acacia catechu Willd.), and Guggulu (Commiphora mukul). The formulation exhibits multidimensional actions targeting metabolic dysfunction, oxidative imbalance, and Srotorodha associated with Madhumeha.

Pharmacodynamically, its Tikta-Kashaya Rasa, Laghu-Rukṣa Guṇa, and Shita Virya balance Kapha and Meda Dhātu, absorb excess Kleda, and enhance Agni function. Guggulu augments lipid and glucose metabolism through Vata-Kapha shamana, Medoghna, and anti-inflammatory actions, while

Khadira and Kadara perform Srotoshodhana and Kledasoshana, improving tissue metabolism and detoxification.

Phytochemically, constituents like tannins, catechins, flavonoids, guggulsterones, and saponin contribute to its hypoglycemic, hypolipidemic, antioxidant, and anti-inflammatory effects. Clinically, it serves as a safe, cost-effective therapy that restores metabolic balance, corrects Agni, and rejuvenates Dhatus, supporting long-term management of Madhumeha and prevention of its complications.

These pharmacodynamic actions form the foundation for its classical Mode of Action described below.

X. MODE OF ACTION OF KADARADI KASHAYA IN MADHUMEHA

Madhumeha originates from Agni Mandya, which impairs metabolism and promotes Āma and Meda accumulation. Irregular diet and lifestyle (Apathya Ahara-Vihara) aggravate Kapha, Meda, and Mamsa, causing Margavarodha (channel obstruction) and manifesting as Prameha with excessive urination and systemic imbalance.

Action on Doṣa-Dhātu:

Khadira and Kadara, being Kashaya-Tikta Rasa, Shita Virya, and Laghu-Rukṣa Guṇa, perform Kledasoshana, Srotoshodhana, and Medohara Karma. Guggulu provides Medoghna, Mehaghna, and Vāta-Kapha Samana effects, enhancing tissue metabolism and balancing Meda Dhātu. These actions collectively rectify Doṣa-Dhātu imbalance and dissolve the pathogenic sequence of Madhumeha.

Agni and Digestive Regulation:

Through Katu Vipaka and Laghu-Rukṣa Guṇa, the formulation invigorates Jatharagni and Dhatvagni, correcting Mandagni and optimizing metabolic transformation.

Mutra Regulation (Mutrasaṅgrahaṇīya Karma):

Kashaya Rasa and Rukṣa Guṇa exert a mild Sthambhaka effect, reducing Bahumutrata and restoring normal Ambu Saṁyata (fluid balance).

Pharmacological Correlation (Modern Perspective):

Bioactive compounds like guggulsterones, β -sitosterol, catechins, and flavonoids have demonstrated hypolipidemic, antidiabetic, and

antioxidant properties. These act synergistically to regulate glucose and lipid metabolism, improve insulin sensitivity, and mitigate oxidative stress.

Rasāyana and Tissue Rejuvenation: Kadaradi Kashaya acts as a Rasayana by revitalizing Dhatus, enhancing microcirculation, and promoting cellular function, thereby preventing chronic complications and supporting systemic well-being.

XI. CONCLUSION

Kadaradi Kashaya, a classical Ayurvedic formulation comprising Kadara (*Acacia suma*), Khadira (*Acacia catechu*), and Guggulu (*Commiphora mukul*), demonstrates a rational, multidimensional approach to Madhumeha (Type 2 Diabetes Mellitus). Its Tikta-Kashaya Rasa, Laghu-Ruksha Guna, and Kaphavatahara actions help restore metabolic balance by reducing Meda and Kleda, enhancing Agni, and regulating Mutra pravritti. Phytochemical studies validate its hypoglycemic, hypolipidemic, and antioxidant effects, supporting β -cell function and insulin sensitivity. Integrating classical wisdom with scientific evidence, Kadaradi Kashaya offers a safe, cost-effective, and holistic therapeutic option for comprehensive management of Madhumeha.

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