



Case Study

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A CASE STUDY ON AMALAKI SVARASA (*PHYLLANTHUS EMBLICA*): A POTENTIAL SINGLE DRUG INTERVENTION IN MANAGEMENT OF PRAMEHA (DIABETES MELLITUS)

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ABSTRACT

Diabetes is becoming a major health problem, approaching epidemic proportions. Rich medicinal plants have been recognized and documented in Ayurveda texts in the management of prameha (Diabetes mellitus); one among the most appreciated is Amalaki - Indian gooseberry or Amla, also known as *Phyllanthus emblica* Linn. (Syn. *Embilica officinalis* Gaertn.), belonging to the family Euphorbiaceae. Amalaki svarasa (juice of amla) was given for one month to a diabetic patient with high glucose levels and exhibited significant results in decreasing blood glucose levels and significant relief in symptoms like fatigue, burning sensation in feet, giddiness, headache, pain below the knees and excessive thirst. Fasting Blood Sugar before treatment was 375 mg/dl and 281 mg/dl after treatment. Postprandial Blood Sugar was 535 mg/dl and 382 mg/dl after treatment. Though several pharmacological studies and few clinical studies have already been done regarding diabetes prevention with this drug, there is still enough scope for re-validating its therapeutic application with its authentic Ayurveda indications and comprehensions.

Keywords: Ayurveda, Prameha, Diabetes mellitus, Amalaki, *Phyllanthus emblica*

INTRODUCTION

Amalaki means that which possesses every possible best quality within. It is famously known as 'Dhatri' in Ayurveda texts, which means "a mother"¹. Truly, this drug deserves this nomenclature as it has excellent restorative properties that invigorate body-sense-mind. Ayurveda is a time-tested medical system which approaches the treatment of diabetes in a holistic method involving medical interventions, lifestyle modifications and diet.

Prevalence of diabetes stands at approximately 537 million adults (20-79 years) as reported by the IDF Diabetes atlas. The total number of people living with diabetes is projected to rise to 643 million by 2030 and 783 million by 2045. Over 3 in 4 adults with diabetes live in low and middle-income countries. The prevalence of diabetes in 2021 is 8.3% in India².

World health organization started promoting traditional medicine interventions, and many initiatives are being carried out to increase global acceptance of Ayurveda³. Botanical therapy has been the most studied treatment in the Ayurveda system of medicine. Herbs are studied either singly or as formulas containing multiple herbs and minerals⁴. The top 10 plants used in the Ayurvedic treatment of type 2 diabetes are Bitter guard, Fenugreek, Indian Kino Tree, Gymnema, Turmeric, Tinospora, Margosa Tree, Holy Fruit Tree, Ivy Guard, and Pomegranate⁵. A much-vexed question remains whether these drugs were selected for clinical interventions due to frequent mentioning in Ayurveda texts or popularising by pharmaceutical and modern pharmacological lab studies. In an eagerness to popularise Ayurveda's clinical practice at a global level and to obtain scientific credibility, Ayurveda diagnosis and treatment in its entirety is not being adopted. Ayurveda intervention is assessed

through the framework of modern medical science, which only partially supports the understanding of a disease and its treatment in this medical science.

Amalaki svarasa (juice extract of *Phyllanthus emblica* fruits) has been mentioned as single drug therapy in the management of prameha (Diabetes mellitus)⁶⁻⁸. Amalaki svarasa exhibited significant improvements in the management of prameha, hence the motive to present this case study.

Case Report

Female, 53 years old, homemaker, widowed, hailing from Kolhapur. K/C/O DM, since 2011, got to know on a general health check-up in their village. She was advised to start on insulin injections from August 2021 due to increased glucose levels in lab investigations. (FBS – 240, PPBS – 359). Due to the incompatibility of allopathic medicines with gut-related problems, family-influenced emotional issues and financial constraints, she stopped taking any medicines for Diabetes mellitus in October 2021 as per her free will. Due to the sudden stoppage of all interventions, the patient became debilitated and shifted to Bengaluru (family home) in November 2021. Approached our hospital on 27/12/2021 to avail of free Ayurveda treatment for already diagnosed DM. The patient was on a vegetarian diet and could manage minimum daily activities.

After around fifteen days of Ayurveda intervention consisting of Nishamalaki tablets, Ashvagandha tablets, Kataka Khadiradi Kashaya, and Amrutadi taila for pada-abhyanga, the patient did not show significant improvement. During the first follow-up, lab investigations were done on 10/01/2022. Blood and urine glucose was high. Amalaki svarasa intervention was started on 22/01/2022 to 22/02/2022, along with previous Ayurveda

interventions. Lab investigations were done again on 24/02/2022 to know the changes in glucose levels. Observations during treatment in the outpatient department were considered for documenting this case report.

Drug and Dosage form: Svarasa (juice) of Amalaki phala (*Phyllanthus emblica* fruits)

Method of preparation: Two fruits of fresh de-seeded Amalaki fruits and 50 ml water to grind it.

Time of intake: Ananna kala (empty stomach)⁹

This specific time was advised, as it has been mentioned that medicine, when consumed without food on an empty stomach, will give the effect of the highest potency¹⁰.

Clinical findings and outcome

Diagnosis: Prameha is a disease with an umbrella of clinical conditions characterized by two vital signs.

- Bahumutrata - polyuria, which includes increased urine quantity and increased frequency of micturition.
- Avilamutrata - increased turbidity of the urine.

The patient exhibited both cardinal signs and was diagnosed as suffering from prameha.

Investigations (before and after treatment)

Objective grading complied in Table 1.

Visual Analogue Scale¹¹ was adopted to grade subjective symptoms. (Table 2)

Laboratory investigations were carried out at the Clinical Laboratory of CARI, Bengaluru, Karnataka, India. (Table 3)

Table 1: Objective grading of observations before and after intervention

Observations	Before intervention grading	After intervention grading
Polyuria	Five times at night after sleep 10-12 times in daytime	Three times at night after sleep 7-8 times in daytime
Blood pressure	BP = 150/90 mm of hg	BP = 150/90 mm of hg
BMI	20.81	20.85

Table 2: VAS grading of symptoms before and after intervention

Symptoms	Before intervention	After intervention
Fatigue	9	2
Burning sensation in feet	9	2
Giddiness	7	1
Headache	9	2
Pain below knees	8	3
Polydipsia	6	3

Table 3: Laboratory investigations results before and after intervention

Tests done	Before treatment (as on 10/01/2022)	After intervention (as on 24/02/2022)	Method
Fasting Blood Sugar (Plasma)	375 mg/dl	281 mg/dl	Trinder
Fasting urine sugar	4+	4+	Semi-automated urine strip analysis
Postprandial Blood Sugar (Plasma)	535 mg/dl	382 mg/dl	Trinder
Postprandial urine sugar	4+	4+	Manual dipstick method
Urine Protein	Negative g/L	Negative g/L	Semi-automated urine strip analysis

DISCUSSION

Svarasa of amalaki (fresh juice of *Phyllanthus emblica* fruits) is the most potent dosage form of that drug¹², and administering svarasa in the early morning, and empty stomach¹³ is optimum for drug metabolism; multiple references also mention svarasa of amalaki in the management of prameha. Thus, svarasa form was advised as an intervention.

Amalaki is a potent drug with practical usage in various diseases and promotes Rasayana (immune-modulatory¹⁴) activity. Pharmacological research reports on amalaki reveal its antiatherogenic¹⁵, antidiabetic¹⁶, nephroprotective¹⁷, and free radical scavenging¹⁸ activities, which makes this one among the choice of drugs in the management of prameha.

Amalaki's Rasayana property¹⁹ and shramahara²⁰ property would have acted as energizers and tissue replenishers. This might have helped reduce fatigue, one of the patient's main complaints. Bhrama (giddiness) is caused due to rajo dosha of manas, pitta and vata dosha²¹. Due to tridoshaghata property²² of (balancing of all three doshas in the body) amalaki, giddiness might have been reduced.

Padadaha (burning sensation in feet) was one of the associated complaints of this patient, especially during the night. Padadaha could be due to raktavrita vata (disease due to a combination of rakta and vata)²³, prameha purvarupa (premonitory symptom) or prameha upadrava (complication)²⁴. Due to the long history of prameha in this case, it could be concluded that this is raktavrita vata & prameha upadrava. Amalaki could have had an accentuated effect in relieving diabetic neuropathy-related symptoms along with Amrutadi taila abhyanga.

Ahara (food) eaten takes a maximum of one month to convert into dhatu²⁵ (body tissues); hence observations were done before and after one month of intervention, with two interim follow-ups to assess patient treatment adherence. Although medas (adipose tissue) is the primary dushya (a bodily structure which gets vitiated by aggravated doshas) in prameha, shukra (sperm and reproductive hormones) is also one among ten dushya hence accessing for a minimum of one month until one ahara paka (food digestion and disintegration into bodily structures) completes becomes necessary. Amalaki is shukrala²⁶; thus, this single drug has the potential to reach and show its action till shukra dhatu formation.

No significant changes were observed in urine glucose readings. This may be attributed to the short duration of observation. Continued intervention for a few more months and its observations could also show a reduction in urine glucose levels.

Scope and limitations

Amla is usually harvested during February month²⁷. In Bengaluru markets, it is available from October to March; hence new drug intervention could be advised as patients visit during these months. Substitute fresh drug interventions like guduchi svarasa (*Tinospora cordifolia*), etc., could be explored and available throughout the year.

Nine patients were advised amalaki svarasa for three months at the OPD unit of Central Ayurveda Research Institute. Out of which, only one patient could follow the procedure for one month without any breaks. This shows that asking the patient to prepare amalaki svarasa every day and following up with them regarding treatment adherence involves much effort from both the stakeholders.

Ayurveda text references of amalaki svarasa (juice of amla) as a single drug in prameha are many, but still not enough case studies or clinical interventions have been done with justifiable Ayurveda reference as its core research question. However, we find Amla being used as an intervention drug in allied science's researches²⁸⁻³¹. Dosage form, posology, time of drug administration and understanding of the reversal of pathology through the Ayurveda viewpoint only may contribute to this medical science.

CONCLUSION

Amalaki svarasa (juice of amla) given for one month to a diabetic patient with high glucose levels exhibited significant results in decreasing the blood glucose levels. Fasting Blood Sugar before treatment was 375 mg/dl and 281 mg/dl after treatment. Postprandial Blood Sugar before treatment was 535 mg/dl and 382 mg/dl after treatment. Both stakeholders observed appropriate relief in symptoms like fatigue, burning sensation in feet, giddiness, headache, pain below the knees and excessive thirst. A pivotal clinical study involving a large population and study of long-term effects is necessary for this study to recognize the efficacy of amalaki svarasa in the management of prameha.

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