

## A CASE STUDY ON THE EFFICACY OF DEVDARU CHOORNA IN PRAMEHA W.S.R TO DIABETES MELLITUS TYPE II

Dr. Samiksha Moreshwar Bhure\*<sup>1</sup>, Dr. Ankush Haushiram Gunjal<sup>2</sup>

<sup>1</sup>PG 3<sup>rd</sup> Year Department of Kayachikitsa, <sup>2</sup>HOD and Prof. Department of Kayachikitsa, SMBT Ayurved College and Hospital, Nandi – Hills, Dhamangaon, Nashik, Maharashtra, India.

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### \*Corresponding Author

Dr. Samiksha Moreshwar Bhure

PG 3<sup>rd</sup> Year Department of  
Kayachikitsa, SMBT Ayurved College  
and Hospital, Nandi - Hills,  
Dhamangaon, Nashik, Maharashtra,  
India.



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### ABSTRACT

**Introduction:** *Prameha* is co – related with Diabetes Mellitus Type II in *Ayurveda*. *Prameha* is a disease characterised by increased frequency of micturition and the urinary output. It is a metabolic disorder which is characterised by high glucose level in blood. **Aims & Objectives:** 1. To study the efficacy of *Devdaru Choorna* in the management of *Prameha* w.s.r. to Diabetes Mellitus – Type II. 2. To Study the etiopathogenesis of *Prameha* w.s.r. to Diabetes Mellitus – Type II. **Materials & Methods:** A 45-year-old female patient came to OPD of *Kayachikitsa* department of our institute SMBT Ayurved Hospital, Dhamangaon, Nashik with complaints of *Prabhuta mutrata* (frequent nocturnal urination) 7-8 times, *Avila mutrata*, *Pipasa* (excessive thirst) and excessive hunger, *Dourbalya* (generalised weakness), and *Ati-sweda* (excessive sweating) & *Naktamutrata* 3- 4 times for a period of 4 months. The patient was administrated 2 gm

*Devdaru Choorna* twice a day before meal with Luke warm water for 30 days of duration.

**Result & Conclusion:** Based on the subjective & objective criteria, improvements was observed after 30 days. Following the therapy, no complaints were reported after 15 days i.e., on the 45<sup>th</sup> day. This indicated that *Devdaru Choorna* is effective in management of *Prameha* w.s.r. to Diabetes Mellitus Type II.

**KEYWORDS:** Diabetes mellitus Type II, *Prameha*, *Devdaru Choorna*.

## INTRODUCTION

Ayurveda, known as the science of life, is recognized for its rich heritage in disease management and life preservation. The condition known as *Prameha*, which has been acknowledged since the time of the *Vedas*, is characterized by turbidity and the frequent passage of excessive urine.<sup>[1]</sup> It is categorized into two forms: *Sahaja* (congenital) and *Apathyanimittaja* (resulting from improper diet and lifestyle practices).<sup>[2]</sup> The onset of this condition is attributed to unhealthy dietary patterns and sedentary lifestyles. The symptoms of *Prameha* have been correlated with Type II Diabetes Mellitus, a chronic disorder marked by elevated blood glucose levels. Diabetes is defined as a metabolic disorder, in which elevated blood sugar levels and disruptions in carbohydrate, fat, and protein metabolism occur due to an insulin deficiency.<sup>[3]</sup> This disease is increasingly being identified as a major public health issue in both developed and developing countries. The global prevalence of Diabetes Mellitus (DM) has been estimated at 11.6%, with approximately 7% of adults in India being affected. A higher prevalence rate has been recorded among males (7.1%) in comparison to females (6.8%). In urban populations, a prevalence of 9.8% has been noted, whereas in rural areas, the rate has been observed at 5.7%. It has been projected by the World Health Organization (W.H.O.) that diabetes will become the seventh leading cause of death by the year 2030.<sup>[4]</sup>

## CASE REPORT

A 45-year-old female patient came to OPD of *Kayachikitsa* department of our institute SMBT Ayurved Hospital, Dhamangaon, Nashik. Patient name: ABCD OPD/IPD No.: 1561.....with complaints of *Prabhuta mutrata* (frequent nocturnal urination) 7-8 times, *Avila mutrata*, *Pipasa* (excessive thirst) and excessive hunger, *Dourbalya* (generalised weakness), and *Ati-sweda* (excessive sweating) & *naktamutrata* 3- 4 times in the past 4 months. A blood investigation showed an increased level of blood sugar and urine. Blood sugar fasting -150 mg/dl and postprandial 203 mg/dl and urine sugar show ++. She was not taking any oral hypoglycaemic agent. So, we treated this patient with *Devdaru choorna* 2gm BD, before meal with warm water. This treatment was advised for 30 days. This patient showed good glycaemic control and clinical improvement after 30 days of treatment. After 15 days of follow-up, i.e., on 45<sup>th</sup> day, the above complaints were reported were decreased.

## Personal History

1. Bowel movement – 1 – 2 times a day; *Samyaka*
2. Appetite – Irregular meal time, Excessive Hunger

3. Sleep – Disturbed Sleep.
4. No history of any type of addiction like tobacco, alcohol & smoking.

### History of past illness

1. Medical history – No any significant history of Hypertension, Bronchial Asthma or any other major illness.
2. Drug History – not on any medication.
3. Surgical History – No any significant history.
4. Family History – No any significant history.

### Samanya Pariksha

Appearance – Fair                      Pulse rate – 78/min  
 B.P. – 120/80 mm hg                      R.R. – 18/min  
 Weight – 60 kg                              Height – 152 cm  
 BMI – 25.8                                      Temperature – 98.4 F

### Systemic Examination

CNS: well oriented & conscious                      CVS: S1, S2 Normal                      P/A: non - tender

Sr.No	Astha Vidha Pariksha	
1	Nadi (pulse)	80 / min, Regular
2	Mala (stool)	once/day and with Niram Mala symptoms
3	Mutra (urine)	7 – 8 times a day and 3 – 4 times at night
4	Jihwa (tounge)	Malavrit (Coated)
5	Akruti	Madhyama
6	Shabda (speech)	Prakrit
7	Sparsha (skin)	Anushna Sheeta
8	Druka (eyes)	Prakrit (Normal)

	<i>Prameha Samprapti Ghataka</i>
<i>Doshas</i>	<i>Tridosha (Vata, Pitta, and Kapha), Specific Kapha</i>
<i>Dushya</i>	<i>Specific – Meda, Oja, meda, Shukra, Vasa, Majja, ojas, Rakta, Ambu, Lasika, Rasa, Mamsa</i>
<i>Srotas</i>	<i>Mutravaha Strotas, Medovaha Stotas</i>
<i>Strotodusti</i>	<i>Atipravriti</i>
<i>Adhisthana</i>	<i>Basti and Sarva Shareer</i>
<i>Swabhava</i>	<i>Chirakari (Chronic Disorder)</i>
<i>Roga Marma</i>	<i>Madhyam</i>
<i>Udhbhava Sthana</i>	<i>Amapakvasayottha</i>

## AIMS AND OBJECTIVES

1. To study the efficacy of *Devdaru Choorna* in the management of *Prameha* w.s.r. to Diabetes Mellitus – Type II.
2. To Study Etiopathogenesis of *Prameha* w.s.r. to Diabetes Mellitus – Type II.

## MATERIALS AND METHODS

- Drug – *Devdaru Choorna*
- Dose – 2 gm twice a day before meal (*Pragbhakta*)
- Duration – 30<sup>th</sup> days
- Follow up - for 45<sup>th</sup> days

### Study type

- Simple Random Single Case Study.

### Center of study

- OPD section of the *Kayachikitsa* department in SMBT Ayurved Hospital, Dhamangaon, Nashik. The patient is chosen on the basis of the following criteria: *Prameha* signs and symptoms are present in this patient.

## DRUG REVIEW

### Reference of *Devdaru choorna* –

देवदारुस्मृतंदारुभद्रं दार्विन्द्रदारुच।  
मस्तदारुद्रुक्लिमं किलिमंसुरभूरुहः॥  
देवदारुलघुस्निग्धं तिक्तोष्णकटुपाकिच।  
विबन्धाध्मानशोथामतन्द्राहिज्वरास्त्रजित्।  
प्रमेहपीनसश्लेष्मकासकण्डूसमीरनुत्॥



### [Bhavprakasa 24-25]<sup>[5]</sup>

- Latin name – *Cedrus deodara* Roxb
- Family – Pinaceae
- Rasa – tikta
- Guna – laghu ,snigdha
- Virya – ushna

- Vipak – katu
- Gana – stnayashodhana, anuvasanopag, katuskandha {charak}; Vaatshaman {sushruta}  
Dosha karma - kaphavaatshamak
- Prayojyanga – bark (kandasaar)
- Karma – krumi, dushtavrana
- Chemical constituent – P - methylacetophenone, atlantone, toxifilin, glycosides, tannins, fixed oils, flavanoids, triterpenoids, & petroleum ether, etc.

## ASSESSMENT CRITERIA

### Subjective Criteria<sup>[6]</sup>

1. Prabhuta Mutrata
2. Avila Mutrata
3. Ati-sweda
4. Daurbalya
5. Pipasa
6. Kshudavridhhi (Polyphagia)
7. Naktamutrata (Nocturnal urination)

### Objective Criteria

1. BSL – Fasting blood glucose level range of 120 - 200 mg/dl
2. BSL – Post prandial blood glucose level range of 170 - 250 mg/dl
3. Urine sugar

### Gradation of Subjective symptoms

#### 1. *Prabhuta Mutrata* (Polyuria)

Grade	Description	Score
0	Normal frequency i.e 1-4 times in a day and 0-2 times at night with normal volume	0
1	Frequency 5-7 times per day and 3-5 times at night with normal volume	1
2	Frequency 8-10 times per day and 3-5 times at night with increased volume	2
3	Frequency > 10 times per day and > 8 times at night with increased volume	3

2. *Avila Mutrata*

Grade	Description	Score
0	Crystal clear fluid	0
1	Faintly cloudy or smoky	1
2	Turbidity clearly present	2
3	Darkly cloudy	3

3. *Ati-sweda*

Grade	Description	Score
0	Sweating after heavy work and fast movement or in weather	0
1	Profuse sweating after moderate work and movement	1
2	Sweating after little work & movement	2
3	Sweating even in rest or in cold weather	3

4. *Daurbalya*

Grade	Description	Score
0	Can do routine work	0
1	Can do routine work but feels tired	1
2	Can do routine work with lot of tiredness	2
3	Cannot do routine work	3

5. *Pipasa*

Grade	Description	Score
0	Feeling of thirst 7-9 times/day Quantity 1-1.5 liter / day	0
1	Feeling of thirst 9-11 times/day Quantity 2-2.5 liter / day	1
2	Feeling of thirst 9-11 times/day Quantity 2.5-3.0 liter / day	2
3	Feeling of thirst 11-13 times/day More than 3.0 liter / day	3

6. *Kshudavridhi (Polyphagia)*

Grade	Description	Score
0	As usual/routine (0-1 meals)	0
1	Three meals a day	1
2	Four meals a day	2
3	Four meals a day but still feels hungry.	3

7. *Naktamutrata (Nocturnal urination)*

Grade	Description	Score
0	No nocturnal maturation	0
1	1-2 times passing of urine at night.	1
2	3-4 times passing of urine at night.	2
3	> 4 times passing of urine.	3

## ASSESSMENT OF CLINICAL RESULT

## Observational table – Subjective criteria

Observations	0 <sup>th</sup> day (BT)	7 <sup>th</sup> day	14 <sup>th</sup> day	21 <sup>th</sup> day	30 <sup>th</sup> day (AT)	45 <sup>th</sup> day (F/UP)
Prabhutamutrata	2	2	2	2	1	1
Avila mutrata	3	3	3	2	2	1
Ati-sweda	3	3	2	2	2	1
Dourbalya	2	2	1	1	1	1
Pipasa	1	1	1	1	1	1
Kshudavridhi	2	2	2	2	1	1
Naktamutrata	2	2	2	2	1	1

## Objective Criteria

Observations	0 <sup>th</sup> day (BT)	30 <sup>th</sup> day (AT)	45 <sup>th</sup> day (F/UP)
BSL F	150	121	112
BSL PP	203	180	150
Urine Sugar	++	+	+

In this case study, observations were recorded based on both the subjective and objective parameters of *Prameha* before and after the treatment. A progressive decline in these indicators was noted following the course of therapy.

## DISCUSSION

The patient in this case was identified as a 45-year-old married individual with *Kapha-Pitta Prakriti*, and a mixed diet was being followed. The causative factors were determined to include the intake of *Madhura and Snigdha Aahar*. Additional contributing factors such as irregular eating habits, disturbed sleep, a withdrawn lifestyle, and a passive approach to *Chintya* were also noted.

*Devdaru Choorna* was chosen for its properties, which are recognized to be *Tiktarasatmaka, Laghu-Snigdha Gunatmaka, Ushna Virya, Katu Vipaka, and Vata-Shamana* in nature.

The *Dravyas* were primarily selected based on their potential to counteract the etiopathogenesis of *Prameha*, owing to their *Ushna Viryatmak, Tikshna Gunatmak, and Ruksha Gunatmak* characteristics.

*Prameha* is understood as a *Tridoshaja Vyadhi* with a predominance of *Kapha*. According to Ayurvedic principles, the *Samprapti* (pathogenesis) of *Prameha* is considered to arise from *Strotodushiti*, particularly in the *Mutravaha Srotas*, caused mainly by the vitiation of all



*Doshas*, especially *Bahudrava Shleshma*, and is clinically manifested as *Prabhuta Avila Mutrata*.

### Mode of action of *Devdaru Choorna*

- Antidiabetic, antipyretic, and antibacterial properties are exhibited by *Devdaru Choorna*.
- A *Tikta Rasa* (bitter taste) is inherently portrayed by *Devdaru*, and it is endowed with *Snigdha* (moist) and *Laghu* (light) *gunas*. *UshnaVirya* (hot potency) and *KatuVipaka* (pungent metabolic outcome) are also attributed to it.
- The *Kapha* (earth and water) and *Vata* (air) *doshas* are balanced by the herb's bioactive ingredients.
- Due to its inherent nature and *doshic* influence, a beneficial effect is exerted by *Devdaru* on various *Dhatus* (body tissues), including *Rasa* (plasma), *Rakta* (blood), *Mamsa* (muscles), *Asthi* (bones), and *Shukra* (reproductive fluids).<sup>[7]</sup>
- The *dravya* is characterized by *UshnaVirya* and *TikshnaRasa*, through which the etiopathology of *Prameha* is targeted and broken down.
- The wood extract of the plant, containing these chemical constituents, was identified to exert both acute toxicity and antidiabetic effects, indicating its potential in diabetes management.<sup>[8]</sup>
- The petroleum ether extract of *Cedrus deodara* (PEECD) was assessed for its antidiabetic potential, and serum glucose level-lowering effects were observed in both normoglycemic and hyperglycaemic rats.
- A hypoglycaemic effect was produced by the PEECD across all administered doses in fasting rats.<sup>[9]</sup>

### CONCLUSION

*Devdaru*, a medicinal substance referenced in *Bhavprakash* 24–25, is described as possessing the qualities of *Tiktarasatmak*, *Laghu-Snigdha gunatmak*, *Ushna Virya*, *Katuvipak*, and *Vaatshaman*. Its therapeutic and pharmacological potential has been explored in this study. In a documented case involving a patient with type 2 diabetes, effective management of the condition—without any observed side effects—was achieved through the proper use of *Devdaru Choorna*. From this case, valuable insights have been gained, highlighting the scope for further research into the potential application of *Devdaru Choorna* for diabetic patients.



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