

AYURVEDIC PROTOCOL IN THE MANAGEMENT OF DIABETIC DYSLIPIDEMIA: ADDRESSING GUT DYSBIOSIS AND METABOLIC IMBALANCE – A CASE REPORT

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ABSTRACT

Introduction: Diabetic dyslipidemia, characterized by elevated triglycerides, cholesterol, LDL, and low HDL, is a frequent metabolic abnormality in Type 2 Diabetes Mellitus. In India, its prevalence ranges between 60–75% among diabetics, contributing significantly to cardiovascular morbidity. Gut microbiota plays a key role in lipid metabolism through bile acid modulation, short-chain fatty acid production, and inflammatory regulation. Dysbiosis promotes hepatic lipogenesis, reduces HDL synthesis, and aggravates dyslipidemia in diabetes. Diabetic Dyslipidemia can be seen under the lens of Medorogam, arising from *Agnimandya*, *Ama Utpatti*, and *Kapha Medo Dushti*. **Aim:** To evaluate the efficacy of Ayurvedic *Medoroga Chikitsa* protocol in the management of diabetic dyslipidemia. **Objective:** To assess changes in symptoms, BMI, blood glucose, and lipid profile before and after treatment. **Methods:** In February 2025, a 42-

year-old male presented with fatigue, heaviness of body, excessive thirst, sweating, increased micturition, weight gain, exertional dyspnoea, and loss of appetite for one year. He visited the OPD of SJSACH, Chennai, and was diagnosed with Diabetic Dyslipidemia/*Medorogam* based on blood glucose and lipid profile. Management began with *Deepana* and *Pachana*, followed by *Udwarthanam*, *Sadhyo Virechanam*, *Podikizhi*, and *Lekhana Kashaya Vasti*. **Results:** Post treatment showed marked reduction in symptoms, blood glucose, and lipid profile, along with mild weight loss. **Conclusion:** *Agni Deepana* and *Ama Pachana* restore *Agni* and remove *Ama*, correcting *Agnimandya*. *Shodhana* eliminates *Kapha*, *Meda*, and *Ama*; *Pathyahara* and *Vyayama* prevent *Meda Vridhhi* and enhance *Dhatvagni*. This integrative management may also have favourably modulated gut microbial dysbiosis, supporting metabolic and lipid homeostasis.

KEYWORDS: Diabetic Dyslipidemia, Medorogam.

INTRODUCTION

Diabetic dyslipidemia is a major metabolic disorder characterized by coexistence of hyperglycemia and lipid abnormalities, significantly increasing the risk of cardiovascular morbidity and mortality. According to the International Diabetes Federation Atlas 2025, approximately 589 million adults aged 20-79 years worldwide are living with diabetes for 11.1% of the global adult population.^[1] India bears a substantial burden with an estimated 89.8- 90 million adults affected, ranking second globally.^[2] Diabetic dyslipidemia is highly prevalent among individuals with type 2 diabetes India, 85-90% of Indian adults with diabetes exhibit dyslipidemia characterized by elevated triglycerides, increased LDL and reduced HDL cholesterol. The pathophysiology of diabetic dyslipidemia involves insulin resistance, altered hepatic lipid metabolism, chronic low grade inflammation, oxidative stress and endothelial dysfunction leading to accelerated atherosclerosis.^[3] Alterations in gut microbiota composition contribute to increased intestinal permeability, lipopolysaccharide mediated endotoxemia, impaired glucose tolerance and dysregulated lipid metabolism. A reduction in short chain fatty acid (SCFA) producing bacteria and overgrowth of pathogenic microbes exacerbates insulin resistance and lipid derangement establishing the gut metabolic axis as a key therapeutic target in diabetic dyslipidemia.^[4] Clinically patients present with symptoms like central obesity, fatigue, polyuria, polydipsia, exertional dyspnea, metabolic sluggishness reflecting progressive metabolic dysfunction.^[5] Conventional management involved Antihyperglycemic agents like metformin, insulin incretin based therapies and lipid

lowering agents like Statins, Fibrates and ezetimibe which effectively improve glycemic and lipid parameters.^[6] However, these therapies do not address the insulin resistance, metabolic inflammation and gut dysbiosis. In Ayurveda, Diabetic Dyslipidemia closely correlates with *Medorogam*, *Medorogam* is a *Santarpanajanya Vyadhi* characterized by *Medovridhhi* and *Medodushti*. It is a disorder arising from *Kapha Dosha* and *Medo Dhathu Dushti*, *Mandagni*, *Ama Sanchaya* and *Medovaha Srotodushti*. The etiopathogenesis of *Medorogam* is attributed to indulgence in *Santarpana Ahara Vihara*, like *Ati Madhura*, *Guru*, *Snigdha*, *Medhya* and *Sleshmala Ahara* along with *Avyayama*, *Diwaswapna*, *Avyavaya* and *Beejadosh*.^[7] These *Nidan*s result in *Kapha Vridhhi*, *Jathragni Mandhya* and *Ama* formation ultimately leading *Medovaha Srotodushti*. The *Chikitsa* aims *Apatarpana* including *Deepana*, *Pachana*, *Kaphamedohara*, *Lekhana* and *Srotosodhana*. The integration of *Pathya Ahara Vihara* and lifestyle modification further restores the *Dhathu Samyata*. Hence this case reports highlights the successful management of *Medorogam* (Diabetic Dyslipidemia) through a structured Ayurvedic treatment protocol addressing metabolic imbalance and gut dysbiosis, resulting in significant clinical, biochemical and quality of life improvement.

PATIENT INFORMATION

A 42 year old male patient presented with complaints of gradual increase in body weight associated with persistent fatigue and a generalized feeling of heaviness of the body. The patient further presented with loss of appetite excessive thirst, increased sweating, increased frequency of micturition (7-8 times per day) and exertional dyspnea. The urinary complaints were also associated with nocturnal frequency leading to disturbed sleep. The symptoms were insidious in onset and progressive in nature, persisting for approximately one year. Owing to the persistent and progression of these complaints, the patient reported to the OPD of Kayachikitsa at Sri Jayendra Saraswathi College and Hospital (SJSACH) Chennai for further evaluation and management.

PAST MEDICAL HISTORY

Patient had no history of DM/ HTN/BA/TB/ CAD/ Thyroid Disorders

FAMILY HISTORY

No relevant family history.

PERSONAL HISTORY

- Appetite: Poor

- Bowels: Regular
- Micturition: Increased frequency (7-8 times/ day)
- Sleep: Disturbed due to nocturnal micturition and heaviness
- Diet: Mixed diet (predominantly sweet and oily food intake)
- Habits: Tea thrice a day

MENSTRUAL HISTORY: not applicable

PSYCHOLOGICAL HISTORY

MENTAL HEALTH

- Mental illness: Absent
- Stressful events: Absent
- Personal coping strategies: social support network (family and friends)

PERSONAL HABITS

- Tobacco: NIL
- Alcohol: NIL
- Illicit drugs: NIL

CLINICAL FINDINGS

Table 1: General Examination.

General Inspection	Central obesity with abdominal fat deposition; no pallor, cyanosis, clubbing, icterus.
CVS	S1, S2 heard
RS	NVBS
GI	Abdomen mildly distended; soft, non-tender; no organomegaly; liver not palpable; bowel sounds normal
Musculoskeletal System	Normal muscle tone and strength
CNS	Conscious and well oriented
Skin and Extremities	Oily texture with mild pigmentation over neck folds; no xanthomas/ xanthelasma/ pedal edema
General Inspection	Central obesity with abdominal fat deposition; no pallor, cyanosis, clubbing, icterus.

Table 2: Local Examination.

Height	170 cm
Weight	82 kg
BMI	28.5 kg/m ² (Overweight)
Waist Circumference	96 cm
Hip Circumference	104 cm
Waist–Hip Ratio (WHR)	0.92 (Central obesity)
Waist–Height Ratio (WHtR)	0.56 (Increased metabolic risk)
Built	Endomorphic
Height	170 cm

DASHAVIDHA PARIKSHA

- *Prakruti: Kapha Pittaja*
- *Vikruti: Kapha Vata Dushti with involvement of Rasa and Meda Dhatu*
- *Sara: Medosara*
- *Samhanana: Madhyama*
- *Pramanam: Madhyama*
- *Satmyam: Vyamishra Satmya*
- *Satvam: Madhyama*
- *Vaya: Madhyama*
- *Ahara Shakti: Abhyavaharana Shakti – Avara; Jarana Shakti – Avara*
- *Vyayama Shakti: Avara*

ASHTA VIDA PARIKSHA

- *Nadi: Kapha Pitta*
- *Mutram: Prabhoota*
- *Mala: Sama Mala*
- *Jihwa: Lepayukta*
- *Shabda: Madhyama*
- *Sparsha: Anushna Sheeta*
- *Drik: Pravara*
- *Akruthi: Sthoola Akruthi*

Table 3: Case Timeline.

TIME PERIOD	EVENTS AND CLINICAL PROGRESSION
March 2024	Patient observed gradual increase in body weight
November 2024	Patient developed persistent fatigue and generalized feeling of heaviness of the body
Early February 2025	Patient presented with complaints of loss of appetite, excessive thirst, increased sweating, increased frequency of micturition, and exertional dyspnoea which had been present for approximately one year and showed a progressive course.
Mid February 2025	Owing to the persistence and progression of symptoms, the patient reported to the out patient department of Kayachikitsa at Sri Jayendra Saraswathi Ayurveda College and Hospital Chennai, for further evaluation and management.

DIAGNOSTIC ASSESSMENT

Laboratory investigations were carried out as part of the diagnostic evaluation. Blood sugar and lipid profile performed on 10th February 2025 revealed deranged glycaemic parameters along with dyslipidemia.

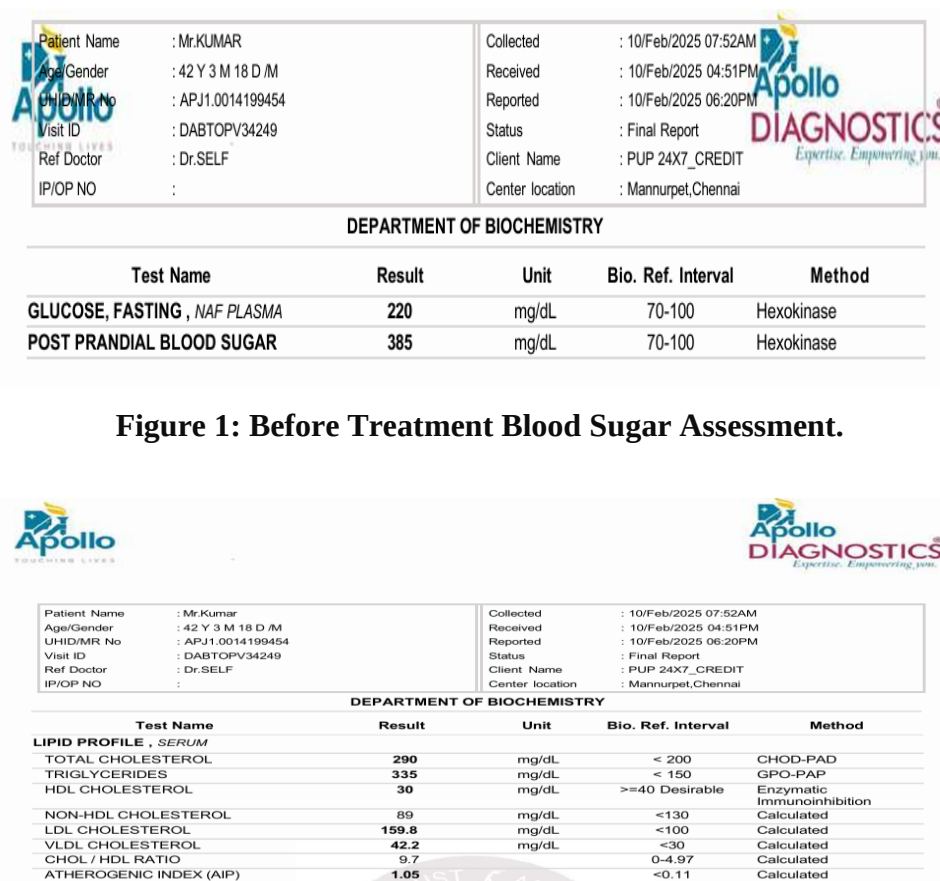


Figure 2: Before Treatment Lipid Profile.

SAMPRAPTI GHATAKAM

- *Dosha: Kapha pradhana vata anubandha*
- *Dushya: Rasa, Medas, Mamsa*
- *Agni: Jatharagni Mandya*
- *Agnidushti: Sama Jatharagni*
- *Srotas: Medovaha Srotas*
- *Srotodushti: Sanga*
- *Udbhava Sthana: Amashaya*
- *Sanchara Stana: Rasavaha Srotas*
- *Vyakta Sthana: Medo Dhathu*
- *Adhishtana: Spik, Sthana, Udara*
- *Rogamarga: Madhyamma*
- *Roga Swabhava: Chirakari*
- *Sadhyata: Sadhya*

DIAGNOSIS

Based on the patient's clinical presentation and laboratory investigations, the patient was diagnosed with *Medorogam* (Diabetic dyslipidemia)

THERAPEUTIC INTERVENTION**Table 4: Internal Medications.**

S.NO	MEDICINE	DOSE	ANUPANA	TIME OF ADMINISTRATION
1.	<i>Kathaka Khadiradi Kashayam</i>	7.5ml---0---7.5ml	60ml luke warm water	At 6AM and 6PM before food.
2.	<i>Varanadi Kashayam</i>	7.5ml---0---7.5ml		
3.	<i>Panchakola Churnam</i>	5g---0---5g	For the first three days with warm water	Before food
4.	<i>T.Navaka Guggulu</i>	2---0---2	With lukewarm water	After food
5.	<i>T.Chandraprabha Vati</i>	1---0---1	With Kashayam	After food
6.	<i>Lashuna Ksheera Paaka</i>	0---0---50ml	At bed time	After food

TABLE 5: THERAPEUTIC INTERVENTION.

EXTERNAL PROCEDURES:		
S.No	Procedure	Number Of Days
1.	Udwarthanam with Kolakulathadhi Churnam	3 days [day 1-3]
2.	Sadhyo Virechanam with 40ml of Gandharvahastadi Eranda Tailam. Number of Vegas:7	1 day [day 4]
3.	Churna Pinda Sweda with Triphala Churnam and Kolakulathadi Churnam	7 days [day 5-day 11]
4.	Lekhana Vasti • Saindhavam: 10g • Madhu: 100ml • Pippalyadi Anuvasana Tailam: 80ml • Shatapushpa Kalkam: 30g • Gomutra: 100ml • Tripahala Kashayam:200ml	7 days [day 5-day 11]

DISCUSSION

Medorogam is a metabolic disorder characterized by vitiation of *Kapha Dosha* with involvement of *Medodhathu* arising due to *Mandagni*, *Ama Sanchaya* and *Rasa Medo Dhathu Dushti*. Hence the therapeutic approach should focus on *Deepana*, *Pachana*, *Medohara*, *Lekahana*, *Kaphashamaka* and *Rasayana* actions.

Probable mode of action of internal medications

Panchakola Churnam

Panchakola Churnam was prescribed for the first three days for *Deepana Pachana* purpose to correct *Agnimandya* and facilitate *Ama Pachana*. *Panchakola Churnam* comprising *Pippali*, *Pippalimoola*, *Chavya*, *Chitraka* and *Shunti* possess *Katu Rasa*, *Ushna Virya*, *Katu Vipaka Tikshna Guna*. Its *Deepana* and *Ama Pachana* action enhances the *Jatharagni* and corrects the metabolic dysfunction in *Medorogam*. *Dravyas* like *Pippali*, *Shunti* have proven Antimicrobial and Carminative effects.^[8,9] Rather than selective eradication of pathogens these phytoconstituents may contribute to modulation of gut microbial balance. Phytoconstituents like gingerol and shogaols present in *Shunti* has proven effects on gastric emptying and improving gut motility which supports the *Deepana* and *Pachana* action.^[10]

Kataka Khadiradi Kashayam

Kataka Khadiradi Kashayam was prescribed to address the *Kapha* predominance and *Medo Dhathu Dushti* in *Medorogam*. It consists of *Kathaka*, *Khadira*, *Dhatri*, *Samanga*, *Vidula*, *Rajani* etc. These *Dravyas* predominantly possess *Tikta Kashaya Rasa*, *Laghu Ruksha Guna*,

Ushna Virya, *Lekhana*, *Medohara* and *Kapha Shamaka* properties. Studies have proven that the phytoconstituents such as berberine from *Rajani*, Catechin from *Kadhira*, gallic acid and ellagic acid from *Dhatri*, tannins from *Kathaka* have proven to modulate glucose and lipid metabolism through activation of AMP (activated protein kinase) reduction of oxidative stress and improves insulin sensitivity.^[11,12,13] Hence these properties aid in reducing excessive *Meda*, improving lipid metabolism and correcting metabolic imbalance.

Varanadi Kashayam

Varanadi Kashayam is composed of *Dravyas* possessing *Katu Tikta Rasa*, *Laghu Ruksha Guna* and *Ushna Virya* which impart *Kapha Medohara*, *Lekhana* and *Srotoshodhana* properties. These properties facilitate the mobilization of accumulated adipose tissue, enhancing hepatic lipid processing and promoting metabolic clearance of excess circulating lipids. Phytoconstituents such as plumbagin and Beta Sitosterol present in key ingredients like *Varuna* and *Chitraka* have reported to enhance hepatic lipid metabolism, stimulate bile secretion, and activate AMP activated protein kinase (AMPK) pathways.^[14,15] The activation of AMPK improves insulin sensitivity, suppresses hepatic lipogenesis and promotes efficient lipid utilization.^[16] Through these combined mechanisms *Varanadi Kashayam* may contribute to improve the lipid homeostasis and improve the glycaemic control in Diabetic Dyslipidemia.

T.Navaka Guggulu

Navaka Guggulu comprises *Guggulu*, *Tripahala*, *Trikatu*, *Chitraka* and *Musta* which exhibit *Katu Tikta Rasa*, *Ushna Virya*, *Lekhana* and *Medohara* properties. The phytoconstituents of these *Dravyas* like Guggulusterone, Gallic Acid, Ellagic Acid and Piperine contribute to its lipid regulating effect through multiple molecular pathways.^[17,18,19] Guggulusterone acts as a functional antagonist of the farnesoid X receptor (FXR) enhancing bile acid synthesis and accelerating cholesterol catabolism which leads to reduction in circulating LDL cholesterol and Triglycerides.^[20] Through these combined phytochemical action, *Navaka Guggulu* probably exerts effect by enhancing bile acid mediated lipid clearance and reducing hepatic lipogenesis.

T.Chandraprabha Vati

Chandraprabha Vati is a herbo mineral formulation containing *Guggulu*, *Guduchi*, *Triphala*, *Trikatu*, *Shilajithu*, *Karpooora* etc. It is *Deepana Pachana*, *Medohara* and *Rasayana* in nature. These attributes support systemic metabolic rejuvenation, enhances tissue level energy

utilization and contribute to balanced glucose and lipid regulation in Medorogam. Bioactive compounds such as Tinosporaside, Chebulinic Acid and Fulvic acid has the ability to enhance insulin sensitivity, improve hepatic glucose lipid metabolism and modulate cellular oxidative stress.^[21,22] Shilajithu rich in fulvic acid and trace minerals support mitochondrial function, improves ATP production and enhances cellular metabolic efficiency thereby counteracts the fatigue and metabolic sluggishness.^[23,24]

Lashuna Ksheerapaka

Lashuna Ksheerapaka prepared using *Lashuna* processed in milk, possess *Katu Tikta Rasa*, *Ushna Virya*, *Katu Vipaka* and *Deepana Pachana* properties. These attributes aid in counteracting *Kapha* dominant metabolic inertia and improving nutrient assimilation. Bioactive sulphur containing compounds such as Allicin and S- allyl cysteine inhibits HMG CoA reductase that reduces serum cholesterol and triglyceride levels.^[25] *Lashuna* exhibits potent anti inflammatory and anti oxidant effects providing cardioprotective benefits by reducing oxidative stress and endothelial dysfunction associated with diabetic dyslipidemia.^[26] Studies have reported that phytoconstituents of *Lashuna* also modulate gut microbiota by suppressing bacterial stains while supporting the growth of commensal flora.^[27]

Probable mode of action of external procedures

Udwardhanam

Udwardhanam is *Kaphahara*, *Medovilayana* and *Lekhana* in nature. Due to its *Laghu* and *Tikshna Guna*, *Udwardhanam* promotes *Ama Pachana* and *Agni Deepana*. “*Udwardhanam Kaphaharam Medasaha Pravilayanam*” signifies its ability to alleviate *Kapha* and liquefy the *Medas*, contributing to weight reduction and improvement in metabolic correction.^[28] *Kolakulathadi Churnam* comprises of *Kola*, *Kulatha*, *Suradaru*, *Rasna*, *Masha*, *Atasi*, *Vacha*, *Shatahva*, *Yava* and *Eranda*. These *Dravyas* possess *Ushna*, *Tikshna Guna* and *Kapha Vatahara* properties, imparting *Lekhana* and *Shothahara* action. *Udwardhanam* enhances microcirculation, improves lymphatic drainage and reduces adipose tissue congestion. The mechanical friction and thermal stimulation produce peripheral lipolysis reducing central obesity and improving insulin sensitivity.^[29]

Sadhyo Virechanam

Sadhyo Virechanam was administered using 60ml of *Gandharvahastadi Eranda Tailam* following which the patient experienced 7 Vegas indicating *Samyak Virechana Lakshanas*.

As *Ama* is the primary causative factor in the *Samprapti* of *Medorogam*, *Sadhyo Virechanam* was administered to facilitate elimination of accumulated *Ama* and vitiated *Doshas*. *Gandharvahastadi Eranda Tailam* contains *Dravyas* predominantly possessing *Vata Kaphahara*, *Deepana*, *Pachana* and *Vataanulomana* properties. *Eranda* contains Ricinoleic Acid that stimulates bile secretion enhances intestinal motility and increases pancreatic secretions leading to fat emulsification and triglyceride breakdown.^[30] Alkaloids and Flavonoids are anti inflammatory, thus it reduces the systemic inflammation associated with insulin resistance and dyslipidemia.^[31] The process of purgation reduces the pathogenic lipopolysaccharide (LPS) producing gut bacteria and promotes the growth of short chain fatty acids producing beneficial microbiota, thus restoring gut eubiosis.^[32]

Churna Pinda Swedam

Churna Pinda Sweda was performed with *Triphala Churnam* and *Kolakulathadi Churnam* to facilitate *Kapha Meda Shamanam*. *Triphala Churnam* possess *Kashaya Rasa*, *Ruksha Sara Guna* and is *Tridosha Shamaka* in nature. It is classically indicated for *Deepana*, *Medohara* and *Prameha*. *Kolakulathadi Churnam* possess *Ushna Tikshna Guna* and *Kapha Vatahara* properties. It's *Lekhana* and *Shothahara* actions facilitates in reduction of heaviness. The combined *Ruksha Ushna* properties of both the *Yogas* liquefy and mobilize accumulated *Medas* from peripheral and abdominal regions. *Swedanam* enhances peripheral circulation, promotes vasodilation and improves lymphatic drainage thereby supporting *Medovilayana*.^[33] The elevation in tissue temperature increases cellular thermogenesis, enhances glucose uptake, improves insulin sensitivity and reduction of adiposity.^[34]

Lekhana Vasti

Table 6: Ingredients of Lekhana Vasti.

INGREDIENTS	DOSE
<i>Saindhavam</i>	10g
<i>Madhu</i>	100ml
<i>Pippalyadi Anuvasana Tailam</i>	80ml
<i>Shatapushpa Kalkam</i>	30g
<i>Gomutra</i>	100ml
<i>Triphala Kashayam</i>	200ml

Lekhana Vasti was administered as a therapeutic measure to address *Kapha Meda Dushti*, eliminate accumulated *Ama*, and support metabolic correction in *Medorogam*. *Vasti Chikitsa* does both *Shodanam* and *Shamanam* thus making it suitable for *Apatarpana Chikitsa*. The formulation consisted of *Saindhavam*, *Madhu*, *Shatapushpa Kalka*, *Pippalyadi Anuvasana*

Tailam, *Gomutra* and *Triphala Kashayam*. The *Katu*, *Kashaya* and *Lavana Rasa*, *Ruksha Tikshna Laghu Guna*, *Ushna Virya* and *Katu Vipaka* impart *Lekhana*, *Medohara* and *Srotoshodhana* action. Due to *Sukshma* and *Tikshna Guna* of *Saindhava Lavana* it penetrates deeper tissues and dislodge adhered *Doshas* and *Malas*.^[35] *Madhu* contributes *Kaphachedana* and *Lekhana* effects.^[36] *Shatapushpa Churnam* due to its *Katu Tikta Rasa*, *Laghu Ruksha Guna*, *Ushna Virya*, and *Kapha Vata Shamaka*, it is *Medohara* in nature. *Pippalyadi Anuvasana Tailam* consists of *Pippali*, *Madhuka*, *Bilwa*, *Chitraka*, *Vacha* etc. It is *Kapha Vatahara*, *Katu Tikta* in *Rasa*, *Ushna Virya* and *Katu* in *Vipaka* owing to it *Lekhana* and *Medohara* nature.^[37] *Shatapushpa Kalka* and *Pippalyadi Anuvasana Tailam* are rich in phytoconstituents like piperine, gingerols, limonene, carvone and flavonoids, these promote thermogenesis and tissue level fat mobilization. *Gomutra* due to its *Tiksha Ushna Kaphavatahara* property is *Lekhana* in nature.^[38] *Ushna Tikshna* and *Ruksha Guna* of *Lekhana Vasti* contribute to suppression of pathogenic gut flora and enhancement of SCFA producing beneficial bacteria. Overall, through its *Lekhana*, *Medohara*, *Amapachana*, *Vatanulomana* properties *Lekhana Vasti* serves as a therapeutic intervention to reduce accumulated *Kapha* and *Medas*.^[39]

Dietary and Physical activity recommendations

Dietary modification was aimed at correcting the *Mandagni*, reducing the *Ama Sanchaya* and addressing the *Kapha Medo Dushti* in *Medorogam*. *Laghu*, *Deepana Pachana* and *Apatarpana* based diet was advised. The patient was advised *Yavagu* and *Peya* in the initial phase to facilitate *Agni Deepana* and *Ama Pachana*. *Tikta Rasa Pradhana Ahara* was followed as it possess *Kapha Medohara*, *Lekhana* and *Srotoshodhana* properties. The dietary regimen included green leafy vegetables, bitter gourd, bottle gourd, ash gourd, barley preparations, green gram and light vegetable soups. Patient was advised to avoid *Guru*, *Snigdha*, *Madhura* and *Abhishyandi Ahara* like refined carbohydrates, fried foods, excessive oily sugary preparations and processed foods.

Patient was advised brisk walking for 30-45 minutes daily, along with *Yogasana* like *Mandukasana*, *Vajrasana*, *Sputa Vajrasana*, *Sethu Bandhasana*, *Sarvangasana Vajrasana*, *Mandukasana*, *Sethubandasana*, *Sputa Vajrasana*, *Sarvangasana*, *Purna Shalabasana*, *Triyaka Bhujangasana*, *Dhanurasana* and *Paschimottasana*. These *Asanas* influence on the pancreatic secretion by rejuvenation of pancreatic cells through abdominal contractions and relaxation during the *Asanas*.^[40]

Table 7: Outcomes.

PHASE 1: <i>Deepana Pachana</i> (<i>Panchakola Churnam, Pathya like Peya</i> and <i>Yavagu</i>)	Patient reported improvement is appetite, reduction in heaviness of the body. Sensation of lethargy and bloating reduced, indicating improved Agni and Ama Pachana.
PHASE 2: <i>Medohara Chikitsa</i> (<i>Kathaka Khadiradi Kashayam, Varanadi Kashayam, Panchakola Churnam, T.Navaka Guggulu, T.Chandraprabha Vati, Udwarthanam, Churna Pinda Sweda</i>)	Gradual reduction in body weight and abdominal girth was observed. The patient experienced improved energy levels, reduced fatigue, decreased excessive thirst and sweating and improved tolerance to physical activity.
PHASE 3: <i>Shodhana and Rasayana Chikitsa</i> (<i>Sadhyo Virechanam, Lekhana Vasti, Lashuna Ksheerapakam</i>)	Patient reported significant improvement in overall wellbeing, sustained weight reduction, improved glycemic control and lipid parameter. Symptoms such as heaviness, polyuria and exertional dyspnoea were markedly reduced, indicating improved metabolic stability.

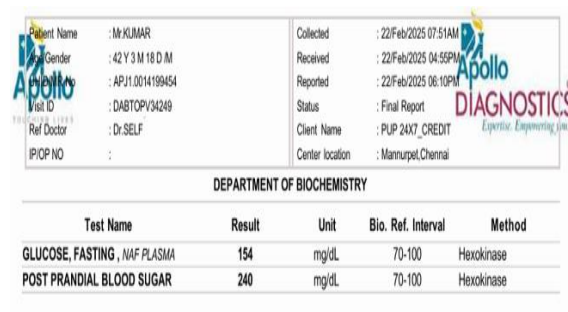


Figure 3: After Treatment Blood Sugar Assessment.

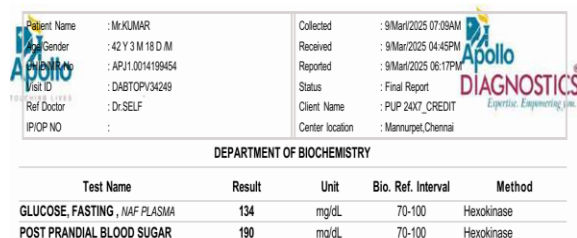


Figure 5: Follow Up Treatment Blood Sugar Assessment.

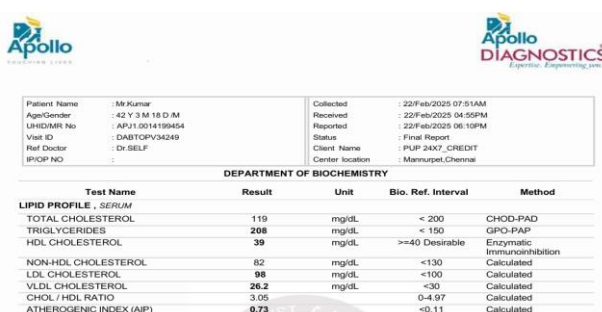


Figure 4: After Treatment Lipid Profile.

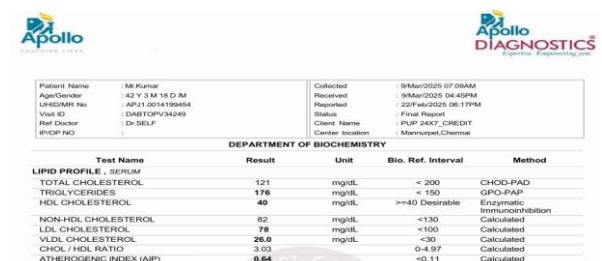


Figure 6: Follow Up Treatment Lipid Profile.

Table 8: Results.

Objective Parameters	Before Treatment	After Treatment	Follow Up
Fasting Blood Sugar	220 mg/dl	154	134
Post Prandial Blood Sugar	385 mg/dl	240	190
Total Cholesterol	290 mg/dl	119	121
Triglycerides	335 mg/dl	208	176
HDL Cholesterol	30 mg/dl	39	40

LDL Cholesterol	159.8 mg/dl	98	78
VLDL Cholesterol	42.2 mg/dl	26.2	26.0
Anthropometric Parameters	Before Treatment	After Treatment	Follow Up
Weight	82 Kg	75.1	74.1
BMI	28.5 Kg/m ² (Overweight)	26.0 kg/m ² (Improved – Overweight)	25.7 kg/m ² (Borderline Normal)
Waist Circumference	96 cm	90 cm	88 cm
Hip Circumference	104 cm	102 cm	101 cm
Waist Hip Ratio (WHR)	0.92 (Central obesity)	0.88 (Reduced central obesity)	0.87 (Near Normal)
Waist Height Ratio (WHtR)	0.56 (Increased metabolic risk)	0.88 (Reduced central obesity)	0.87 (Near Normal)

Table 9: Subjective Parameters.

Diabetes Symptom Checklist- Revised (DSC-R)	Total Score	Severity
Before treatment	92/170	Moderate to Severe
After treatment	48/170	Mild to Moderate
Follow up	22/170	Minimal
Fatigue Severity Scale (FSS)	Total Score	Severity
Before treatment	3.8/7	Moderate fatigue
After treatment	3.0/7	Mild to moderate fatigue
Follow up	2.6/7	Minimal fatigue
World health organization quality of life -BREF (WHOQOL-BREF)	Total Score	Severity
Before treatment	50/100	Moderate to poor QOL
After treatment	68/100	Improved QOL
Follow up	78/100	Good QOL

FOLLOW UP

Due to financial constraints the patient was unable to purchase additional medications after the treatment period. Consequently, he continued only the same internal medicines that were prescribed during the therapy without any modification. Patient reported for follow up after one month and there was significant reduction in blood sugar parameters and lipid profile. Subjectively patient also had reduction in symptoms like fatigue, heaviness of the body, excessive thirst, nocturnal urinary frequency and exertional dyspnoea. Anthropometric parameters also showed marked reduction indicating improvement in central obesity and cardiometabolic risk.

INTERVENTION ADHERANCE AND TOLERABILITY

Patient had good adherence to the prescribed treatment protocol, including internal medications, panchakarma procedures, dietary modifications and physical activity recommendations. No intolerance or non compliance in following the treatment regimen was reported.

ADHERANCE AND UNANTICIPATED EVENTS

No adverse drug reactions, procedural complications or unanticipated clinical events were observed or reported during the entire course of treatment and follow up.

PATIENT PERSPECTIVE

I had been suffering from tiredness, excessive thirst, weight gain, sweating and frequent urination which affected my daily activities and energy levels. I was worried about my increasing blood sugar and cholesterol levels. After starting ayurvedic treatment, I gradually noticed improvement in my energy, reduction in body weight and better control of thirst and urination. Seeing my blood sugar and cholesterol levels gave me reassurance. I am grateful to the doctors for helping me regain my health back.

STRENGTHS AND LIMITATIONS

STRENGTHS: This case demonstrates significant improvement in glycaemic parameters, lipid profile, anthropometric measurements and subjective symptoms through a *Samprapti* based Ayurvedic treatment protocol, without just relying on hypoglycaemic or lipid lowering medications.

LIMITATIONS: Advanced metabolic markers such as HBA1c, insulin resistance indices and inflammatory biomarkers could not be assessed due to financial and logistical constraints.

TAKE AWAY LESSONS FROM THIS CASE REPORT

This case highlights the therapeutic potential of managing *Medorogam* when the treatment is planned based on *Dosha involvement* and *Samprapti Ghataka*. Addressing *Mandagni*, *Ama*, *Kapha Meda Dushti*, impaired lipid metabolism and gut dysbiosis which plays a crucial role in improving glycemic index, improving dyslipidemia and preventing metabolic complications. A treatment protocol incorporating *Deepana Pachana*, *Medohara*, *Lekhana*,

Shodhana, *Rasayana* along with appropriate *Pathya Ahara* and *Vihara* offer a sustainable metabolic disorder management.

CONCLUSION

Medorogam is a multifactorial metabolic disorder involving *Kapha*, *Med Dhathu Dushti*, *Mandagni*, *Ama* accumulation and dysregulated glucose and lipid metabolism. This case focused on the *Samprapthi Vighatana* at the level of *Agni*, targeting the root pathology rather than only symptomatic metabolic correction. The treatment protocol not only emphasized improvement in glycemic and lipid parameters through *Medohara*, *Deepana Pachana*, *Lekhana* and *Shodhana* therapies but also addressed gut dysbiosis which plays a key role in sustaining insulin resistance, systemic inflammation and lipid derangement. In the view of long term complications associated with diabetic dyslipidemia, the patient was administered cardioprotective formulation as a preventive measure, highlighting the importance of proactive risk reduction along with metabolic management. This case underscores that an Ayurvedic treatment grounded in *Samprapthi* analysis, combined with *Panchakarma*, *Rasayana Chikitsa*, Dietary regulation, lifestyle modification and preventive cardiometabolic care serve as an effective and sustainable management in *Medorogam* (Diabetic Dyslipidemia).

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