

Case Series

Therapeutic outcomes of *virechana karma* in dyslipidaemia: a case series

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ABSTRACT

Dyslipidaemia is a major global health concern associated with cardiovascular disease, with prevalence ranging from 20% to over 80% depending on region, age, sex, and diagnostic criteria. It is strongly linked to sedentary lifestyle and unhealthy dietary habits. In Ayurveda, dyslipidaemia can be correlated with *Medoroga* characterized by abnormal accumulation of *Medo Dhatu* due to impaired *Dhatvagni*, predominantly involving Kapha and Pitta Dosha. The objective is to evaluate the therapeutic outcome of classical *Virechana Karma* on lipid profile parameters in patients with dyslipidaemia. Five clinically diagnosed cases aged 18–40 years with disease chronicity of approximately three years were selected after obtaining written informed consent. Classical *Virechana Karma* was administered followed by *Samsarjana Krama*. Serum lipid profile parameters were assessed before intervention and after completion of therapy. Post-therapy follow-up of six months included dietary regulation and lifestyle modification. Post-intervention assessment showed reduction in total cholesterol, triglycerides, LDL, and VLDL levels across all cases, with a modest increase in HDL. Intra-individual comparison demonstrated consistent improvement in lipid profile parameters following *Virechana Karma*. Associated clinical symptoms such as heaviness and lethargy showed reduction. Incidental borderline glycaemic parameters, including HbA1c, improved in select cases, and no adverse events were reported. This case series indicates an association between classical *Virechana Karma* and improvement in serum lipid profile parameters in dyslipidaemia; however, findings are limited by small sample size and lack of a control group, warranting further controlled studies.

Keywords: Dyslipidaemia, *Virechana karma*, *Medoroga*, *Shodhana therapy*, Case series, Ayurveda

INTRODUCTION

Dyslipidaemia (ICD-10: E78) is a metabolic disorder characterized by abnormal levels of serum lipids and is a major risk factor for cardiovascular disease, the leading cause of mortality worldwide. The global prevalence of dyslipidaemia varies widely, ranging from 20% to over 80%, depending on age, sex, ethnicity, and diagnostic criteria.^{1,2} Clinically, dyslipidaemia is often asymptomatic but may present with nonspecific features such as lethargy, heaviness, reduced exercise tolerance, and weight gain, leading to underdiagnosis unless biochemical screening is performed. Biochemically, it is characterized by elevated

total cholesterol, low-density lipoprotein, very low-density lipoprotein, and triglycerides, along with reduced high-density lipoprotein levels. Conventional management primarily involves pharmacological agents such as HMG-CoA reductase inhibitors and PPAR- α agonists; however, long-term therapy has been associated with adverse effects including hepatotoxicity and increased risk of type-2 diabetes mellitus.³

In Ayurveda, dyslipidaemia can be correlated with *Medoroga*, classified under *Santarpanotha Vyadhi*, resulting from over-nutrition and impaired metabolic processing. The pathogenesis is attributed to derangement

of *Jatharagni* and *Dhatvagni*, leading to defective metabolism and abnormal accumulation of *Meda Dhatu*. Classical Ayurvedic texts advocate *Aptarpana* and *Langhana Chikitsa* for *Santarpanotha Vyadhi*, with *Virechana Karma* being a principal *Shodhana* therapy indicated for elimination of morbid *Pitta* and *Kapha* and restoration of metabolic equilibrium. In this context, the present case series evaluates the therapeutic outcome of classical *Virechana Karma* using contemporary biochemical parameters, thereby assessing its clinical relevance in the management of dyslipidaemia.

CASE SERIES

This case series included patients presenting to a Panchakarma outpatient setting who were identified with dyslipidaemia either incidentally during routine health screening or with a known history of the condition. Patients primarily reported nonspecific complaints such as increased body mass index, fatigue, and dizziness. Initial

evaluation comprised detailed clinical history, physical examination, and laboratory investigations. Demographic

variables including age, gender, occupation, and duration of illness were recorded for all patients.

Five patients aged between 18 and 40 years, with a disease duration of approximately three years, were included in the study after obtaining written informed consent. Patients with major systemic illnesses, including hypertension, chronic kidney disease, or any acute medical or surgical condition, were excluded. All selected patients fulfilled the criteria for *Shodhana Arahata*.

Pre- and post-intervention assessment was carried out using serum lipid profile parameters, including total cholesterol, triglycerides, low-density lipoprotein, very low-density lipoprotein, and high-density lipoprotein. Classical *Virechana Karma* was administered following *Deepana*, *Pachana*, *Abhyantara Snehapana*, *Abhyanga*, and *Swedana*, and was completed with *Samsarjana Krama*. Patients were followed up for six months with dietary regulation and lifestyle modification. Demographic and clinical details of all cases are summarized in Table 1.

Table 1: Baseline demographic and clinical characteristics of patients.

Parameter	Patient-1	Patient-2	Patient-3	Patient-4	Patient-5
Age (years)	28	35	27	28	28
Gender	M	F	F	F	F
Body mass index (kg/m ²)	27.4	29.1	28.6	30.2	27.9
Occupation	Government job	Government job	Private job	Private job	Government job
Dietary pattern	Mixed	Vegetarian	Vegetarian	Mixed	Mixed
Physical activity level	Moderate	Moderate	Sedentary	Sedentary	Moderate
Duration of dyslipidaemia	3 years	3 years	3 years	3 years	3 years

Case 1

A 28-year-old male patient presented with a known history of dyslipidaemia for the past three years. He reported complaints of increased body mass index, persistent fatigue, reduced appetite, and indigestion. The patient had been receiving conventional medical management with HMG-CoA reductase inhibitors for the previous one year; however, no significant improvement was observed. Laboratory investigations revealed elevated total cholesterol and triglyceride levels, while other lipid parameters were within normal limits.

Case 2

A 35-year-old female patient presented with complaints of fatigue and overweight. Dyslipidaemia was detected incidentally during a routine health check-up three years ago. There was no prior history of medication for dyslipidaemia. Laboratory evaluation showed elevated total cholesterol and triglyceride levels, with other lipid parameters within normal range. Thyroid function testing revealed raised thyroid-stimulating hormone levels, and

glycated hemoglobin (HbA1c) was also found to be elevated.

Case 3

A 27-year-old female patient presented with a diagnosed case of dyslipidaemia for 3 years, along with complaints of increased body mass index, fatigue, indigestion, and increased abdominal adiposity. The condition had been detected approximately three years prior to presentation, and the patient had not received any medical treatment for the same. Laboratory investigations demonstrated elevated total cholesterol, triglycerides, low-density lipoprotein, and very low-density lipoprotein levels, while other lipid parameters were within normal limits. Thyroid function testing showed elevated thyroid-stimulating hormone levels, and HbA1c was also raised.

Case 4

A 28-year-old female patient presented with diagnosed dyslipidaemia and overweight for three years, identified incidentally during a routine health screening. The patient did not report any prior medical treatment for

dyslipidaemia. Laboratory investigations revealed elevated total cholesterol, triglycerides, low-density lipoprotein, and very low-density lipoprotein levels, while remaining lipid parameters were within normal limits.

Case 5

A 28-year-old female patient presented with a known history of dyslipidaemia for the past three years, associated with increased body mass index, fatigue, anorexia, and indigestion. The patient had attempted dietary modification and regular exercise for one month without

pharmacological intervention; however, no significant improvement was noted. Laboratory findings showed elevated total cholesterol, triglycerides, and low-density lipoprotein levels, with other lipid parameters within normal limits.

Treatment plan

After observing of all clinical condition and laboratory investigation following treatment were planned as maintained in Table 2.

Table 2: Virechana Karma protocol followed in all patients.

Karma	Component	Details
Purva Karma	Deepana–Pachana	Panchakola Churna 5 g twice daily before food with lukewarm water for 5 days
	Abhyantara Snehapana	Murchita Ghrita administered early morning. Initial dose 30 ml with daily dose escalation based on assessment of Sneha Pachana of the previous day. Snehasiddhi Lakshana achieved in all patients within 5 days; final dose ranged between 180–200 ml
	Ahara–Vihara (During Purva Karma)	Laghu and Ushna Ahara advised during Deepana–Pachana and Snehapana Kala
Vishrama Kala	Bahya Snehana and Swedana	Abhyanga with Murchita Tila Taila followed by Swedana using Dashamoola Kwatha for 2 days
	Ahara–Vihara (Vishrama Kala)	Pittakara Ahara–Vihara advised. one glass of warm water with lemon at bedtime
Pradhana Karma	Virechana Yoga	Trivrit Avaleha 60 g administered with 100 ml Triphala Kwatha
	Kala and Observation	Virechana performed during Pitta Kala under supervision; Vega and Upavega including time, frequency, consistency, and color were recorded
Paschat Karma	Samsarjana Krama	Five-day Samsarjana Krama following Manda, Peya, Vilepi, Yusha (Kruta and Akruta), followed by normal diet as per classical guidelines

Following completion of Virechana Karma and Samsarjana Krama, all patients were administered a uniform Shodhanottara Shamana regimen aimed at

sustaining metabolic correction and preventing recurrence. The details of the post-Virechana Shamana therapy are summarized in Table 3.

Table 3: Post-virechana shamana Chikitsa protocol followed in all patients.

Phase	Medication	Dose and Anupana	Duration
Phase I	Varunadi Kwatha	20 ml twice daily before food with lukewarm water	30 days
	Aarogyavardhini Vati	500 mg twice daily after food with lukewarm water	30 days
	Gokshura Churna + Musta Churna	3 g each twice daily before food with lukewarm water	30 days
Phase II	Same medications as Phase I	Once daily dosing with the same Anupana	15 days
Phase III	Pathya Palana	Dietary and lifestyle regulation only	Follow-up period

During Phase III, patients were advised to strictly adhere to Pathya Palana with emphasis on Laghu, Ushna and Sukham Paka Ahara to support Agni and prevent Meda

accumulation. Intake of Guru, Snigdha, Ati-Madhura, and Abhishyandi Ahara, as well as consumption of food in the absence of hunger, was avoided. Regular Vyayama

appropriate to individual capacity was encouraged, while *Divaswapa*, *Atibhojana*, and sedentary lifestyle practices were strictly discouraged throughout the follow-up period.

Baseline and post-intervention values of serum lipid profile and glycaemic parameters for individual patients are presented in Table 4 to illustrate case-wise changes following *Virechana Karma*. Statistical comparison of pre- and post-treatment serum lipid profile and glycaemic parameters was performed using the Wilcoxon signed-rank test and is presented in Table 5.

All five patients completed *Virechana Karma*, post-procedural *Samsarjana Krama*, and *Shodhanottara Shamana* therapy without any adverse events. Pre-post

comparison demonstrated a statistically significant reduction in total cholesterol, triglycerides, LDL, and VLDL levels following intervention ($p<0.05$). HbA1c levels also showed significant improvement, while HDL cholesterol demonstrated a non-significant change.

During follow-up at 1, 3, and 6 months, the improvements observed in serum lipid profile and glycaemic parameters were maintained in the majority of patients, with no rebound increase noted. Associated clinical symptoms showed parallel and sustained improvement throughout follow-up with adherence to *Pathya Palana* and lifestyle modification, and no delayed adverse events were reported.

Table 4: Case-wise changes in lipid profile and glycaemic parameters (Pre–Post).

Parameter (mg/dl)	Patient 1 (Pre)	Patient 1 (Post)	Patient 2 (Pre)	Patient 2 (Post)	Patient 3 (pre)	Patient 3 (Post)	Patient 4 (pre)	Patient 4 (Post)	Patient 5 (pre)	Patient 5 (Post)
Total Cholesterol	225	168	213	190	292	132	265	122	269	146
Triglycerides	168.8	114	330.5	364.8	299.8	132	387.9	118	336.6	143
HDL Cholesterol	43	37	30.4	31.4	49	29.9	45	30	39	37
LDL Cholesterol	148.2	79	116.5	110.4	176.2	88	134.3	110	149.8	82
VLDL Cholesterol	33.8	22.8	66.1	73.0	54.2	32.1	72.1	43.2	54.3	33.4
HbA1c (%)	5.3	4.9	5.2	3.9	5.0	3.1	4.9	3.9	5.9	4.2

Table 5: Statistical summary of pre–post changes.

Parameter	Pre-treatment (Mean $\pm$ SD)	Post-treatment (Mean $\pm$ SD)	P value
Total Cholesterol (mg/dl)	252.8 $\pm$ 31.4	151.6 $\pm$ 26.8	<0.05
Triglycerides (mg/dl)	304.7 $\pm$ 80.1	174.4 $\pm$ 110.2	<0.05
LDL Cholesterol (mg/dl)	145.0 $\pm$ 22.4	93.9 $\pm$ 15.4	<0.05
VLDL Cholesterol (mg/dl)	56.1 $\pm$ 16.0	40.9 $\pm$ 18.7	<0.05
HDL Cholesterol (mg/dl)	41.3 $\pm$ 7.1	33.1 $\pm$ 3.4	NS
HbA1c (%)	5.26 $\pm$ 0.37	4.00 $\pm$ 0.67	<0.05

DISCUSSION

Dyslipidaemia is a metabolic disorder characterized by quantitative and qualitative abnormalities in serum lipoproteins, including elevated total cholesterol, triglycerides, LDL, VLDL, and/or reduced HDL, which collectively increase the risk of atherosclerosis and cardiovascular disease. Clinically, dyslipidaemia is often asymptomatic and remains undetected until identified through biochemical screening. The absence of specific symptoms can be attributed to the slow and progressive nature of lipid accumulation and metabolic imbalance; wherein structural and functional disturbances develop at a subclinical level before manifesting as overt cardiovascular pathology.⁴

In Ayurveda, dyslipidaemia can be correlated with *Medoroga*, classified under *Santarpanotha Vyadhi*, where excessive and improper nutrition, sedentary lifestyle, and impaired metabolic processing lead to pathological accumulation of *Meda Dhatu*.⁵ The underlying pathogenesis involves dysfunction of *Jatharagni* and *Dhatvagni*, resulting in incomplete transformation of nutrients and excessive deposition of unprocessed metabolic by-products. This derangement predominantly involves *Kapha* and *Pitta Dosha*, leading to *Srotorodha* and disturbed lipid metabolism. Due to the predominance of *Manda* and *Snigdha* qualities, the disease often lacks prominent pain or inflammatory symptoms in early stages, explaining the paucity of specific clinical manifestations.

Considering the above *Samprapti*, *Virechana Karma* was selected as the principal intervention in all cases.

Virechana is the prime *Shodhana* therapy indicated for elimination of morbid *Pitta* and associated *Kapha*, particularly in disorders arising from *Santarpana* and *Medo Dushti*.⁶ By expelling accumulated Dosha from their primary site and clearing obstructed *Srotas*, *Virechana* helps restore the functional integrity of *Agni* at both digestive and tissue levels. These classical observations are corroborated by contemporary clinical evidence: a standard controlled clinical trial demonstrated a highly significant reduction in serum lipid parameters following *Virechana Karma* in patients with dyslipidemia (*Medoroga*), and a case report similarly documented normalization of lipid profile and metabolic parameters after *Virechana Karma* in *Santarpanajanya Vyadhi* with metabolic derangement.^{7,8}

The significant reduction observed in total cholesterol, triglycerides, LDL, and VLDL following intervention in the present series is therefore consistent with this growing body of evidence, and suggests effective correction of the underlying metabolic dysfunction through *Shodhana*.

From a probable mechanistic perspective, *Virechana Karma* may influence lipid metabolism by enhancing hepatic processing of lipids, improving bile secretion, and facilitating clearance of circulating lipoproteins. The improvement in triglyceride and VLDL levels observed in most patients indicates effective regulation of lipid transport and storage pathways. Additionally, reduction in HbA1c in patients with borderline baseline values suggests a broader metabolic regulatory role of *Virechana*, supporting classical descriptions of its *Medohara* and *Agni Deepana* actions.⁹

Following *Shodhana*, *Shodhanottara Shamana Chikitsa* was administered to consolidate the metabolic correction achieved through *Virechana* and to prevent recurrence of *Meda Dushti*. *Varunadi Kwatha* is classically indicated in disorders involving *Medovaha Srotas* and *Kapha* predominance. Its constituents possess *Tikta-Kashaya Rasa*, *Laghu-Ruksha Guna*, *Ushna Virya*, and *Katu Vipaka*, which collectively exert *Lekhana* and *Srotoshodhana* actions. Through its *Mutrala* and *Medohara* properties, *Varunadi Kwatha* facilitates mobilization and elimination of excess *Meda* and *Kapha*-associated metabolic waste, thereby aiding in clearance of *Srotorodha* and normalization of lipid transport pathways.¹⁰ This is corroborated by experimental evidence demonstrating significant antihyperlipidemic activity of *Crataeva nurvala* (*Varuna*) bark extracts, with marked reduction in total cholesterol, triglycerides, and LDL in diet-induced hyperlipidemic models, supporting its classical *Medohara* indication within *Varunadi Kwatha*.¹¹

Aarogyavardhini Vati plays a pivotal role in restoring *Agni* and hepatic metabolic functions. With predominant *Tikta-Katu Rasa*, *Ushna Virya*, and *Katu Vipaka*, it acts as a potent *Deepana-Pachana* formulation, correcting *Dhatvagni Mandya* and improving transformation of nutrients at the tissue level. Its traditional indication in

disorders of *Yakrit* and *Meda* suggests a probable role in regulating lipid synthesis and metabolism, thereby contributing to sustained reduction in atherogenic lipid fractions following *Shodhana*.¹² This is supported by an experimental study in which *Aarogyavardhini Vati* produced a significant, dose-dependent reduction in serum total cholesterol, triglycerides, and LDL with an increase in HDL in hyperlipidemic rats, an effect comparable to fenofibrate, lending pharmacological plausibility to its hypolipidemic action.¹³

Gokshura Churna, owing to its *Madhura Rasa*, *Sheeta Virya*, and *Madhura Vipaka*, primarily supports *Mutravaha Srotas* while exerting a balancing effect on *Kapha* without aggravating *Pitta*. Its *Mutrala* and *Anulomana* properties assist in elimination of excess metabolic by-products and fluid retention associated with *Meda Vriddhi*, thereby supporting systemic metabolic equilibrium.¹⁴ This is in agreement with a randomized placebo-controlled trial in which *Tribulus terrestris* (*Gokshura*) supplementation produced a significant reduction in total cholesterol and LDL, lending clinical support to its use in this protocol.¹⁴ *Musta Churna*, characterized by *Tikta-Kashaya Rasa*, *Laghu-Ruksha Guna*, and *Ushna Virya*, acts as a potent *Pachana* and *Kapha-Medohara* drug. By correcting *Ama* and improving digestive efficiency, *Musta* helps prevent re-accumulation of improperly processed lipids at the level of *Meda Dhatu*.¹⁵ This classical *Medohara* property is supported by an experimental study reporting significant lipid-lowering activity of alcoholic extract of *Cyperus rotundus* (*Musta*) rhizome in hyperlipidaemic rats.¹⁶

Collectively, these formulations act synergistically to maintain *Agni*, promote *Lekhana* of excess *Meda*, ensure *Srotoshodhana*, and stabilize the metabolic correction achieved through *Virechana Karma*. This integrative *Shodhana-Shamana* approach facilitates effective *Samprapti-bhanga* in *Medoroga* by addressing both root metabolic dysfunction and its downstream manifestations. The sustained improvement during follow-up without rebound elevation of lipid parameters highlights the synergistic role of *Shodhana*, *Shamana*, and *Pathya Palana* in achieving durable therapeutic outcomes.

Although HDL levels did not show statistically significant improvement, stabilization of HDL alongside marked reduction in atherogenic lipid fractions may still be considered clinically beneficial. The findings of this case series, while limited by small sample size and absence of a control group, provide preliminary evidence supporting the role of *Virechana Karma* as a safe and effective therapeutic modality in dyslipidaemia. Larger controlled clinical trials with longer follow-up are warranted to further validate these observations.

CONCLUSION

This case series suggests that classical *Virechana Karma* followed by appropriate *Shodhanottara Shamana Chikitsa*

is associated with significant improvement in atherogenic lipid parameters in patients with dyslipidaemia. The sustained metabolic benefits observed during follow-up highlight the role of *Shodhana* in correcting underlying *Meda Dushti* and *Agni* imbalance when supported by *Pathya Palana*. However, larger controlled clinical studies are required to confirm these findings and establish broader clinical applicability.

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