

## A Case Study on Role of Virechana Karma as a conservative management in Metabolic Syndrome (Santarpana Janya Vyadhi)

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The prevalence of lifestyle diseases such as hypertension, diabetes mellitus, dyslipidemia, and obesity has skyrocketed in recent years. Among these, Metabolic Syndrome (MS) stands out as a significant public health challenge worldwide, fueled by the rise in obesity and sedentary living habits. This complex condition is characterized by a cluster of interrelated health issues, including abdominal obesity, insulin resistance, hypertension, and hyperlipidemia, all of which significantly increase the risk of cardiovascular diseases and other chronic illnesses. As there is no direct reference of Metabolic Syndrome in Ayurveda. But due to resemblance of its etiopathogenesis and clinical features, it may come under broad umbrella of Santarpanjanyavyadhi, Medopradoshaja Vikara and Medosroto Dusti. Virechana Karma is line of treatment for Santarpanajanya Vyadhi and Bahudoshawastha. The aim of this study was to treat Metabolic Syndrome with Virechana Karma. Weight, Waist circumference, Lipid profile was opted for the assessment of Metabolic Syndrome before and after the treatment. This case study involved a 41-year-old female patient presenting with weight gain, drowsiness, bodily heaviness, disturbed thyroid profile, and hyperacidity in the last four years. Initial assessments revealed elevated levels of total cholesterol, VLDL, and triglycerides. After undergoing Virechana Karma (therapeutic purgation), the patient demonstrated significant improvements in lipid profiles, complete remission of symptoms, and a remarkable weight loss of 4 kg. The impressive outcomes can be attributed to the correction of Agni (digestive fire) through Virechana Karma and the elimination of abnormal lipids from the body. This study strongly supports the efficacy and safety of Virechana Karma in the management of metabolic syndrome.

**Keywords:** Virechana Karma, Santarpanajanya Vyadhi, Metabolic syndrome

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## Introduction

Metabolic syndrome encompasses a combination of interconnected physiological, biochemical, clinical, and metabolic factors that significantly elevate the risk of cardiovascular diseases, type 2 diabetes mellitus (DM), and all-cause mortality. It includes abdominal obesity, insulin resistance, hypertension, and hyperlipidemia.[1]

Metabolic syndrome poses a complex metabolic disorder and emerges as a clinical challenge in today's society, affecting 11% - 41% of Indians and approximately 1 in 4 adults worldwide.[2] Various diagnostic criteria exist for quantifying MetS, with the International Diabetic Federation (IDF) and the National Cholesterol Education Program Adult Treatment Panel III (NCEP ATP III)2 being widely used.[3]

According to NCEP ATP III categorized Metabolic Syndrome as, individuals must have at least 3 of these 5 measures must be outside of the cut-points, increased central obesity (waist circumference), Hypertension or Raised systolic and/or Diastolic blood pressure, Serum Dyslipidemia i.e, Decreased high density lipoprotein cholesterol (HDL-C) and Raised Triglyceride (TG), and Impaired fasting blood sugar (FBS).[4]

The decline in physical activity levels in the past decades can be attributed to a combination of factors, including jobs becoming less physically active and more 'desk based', the reliance on motorized transport rather than walking and cycling, and the growth in the popularity of sedentary pastimes involving televisions and computers. Individual who watched television or computer < 1 hour daily compared with who carried out those behavior for >4 hours had a Two-Fold increased risk of Metabolic syndrome.[5] Metabolic Syndrome can be closely correlated with *Santarpanjanya Vikaras*, which encompass diseases arising from over-nutrition and defective tissue metabolism. The hallmark feature of Metabolic Syndrome is central obesity, which aligns with the *Ayurvedic* concepts of *Medhovidhi* (excess fat accumulation) or *Sthaulya* (obesity). The causative factors of Metabolic Syndrome closely mirror those of *Medoroga* in *Ayurveda*. Both conditions are linked to *Atisampurana* (excessive consumption of food, particularly *Madhura* [sweet], *Sheeta* [cold], and *Snigdha* [unctuous] diets),

Along with sedentary habits like *Avyayam* (lack of physical activity), *Diwaswapna* (daytime sleeping), *Harsha* (excessive indulgence), *Achintana* (lack of mental engagement), and *Beeja Dosha* (genetic or hereditary predisposition).[6] According to modern medicine, effective treatment involves targeting the root cause of the disease. *Ayurveda* aligns with this approach by emphasizing the cleansing of congested *Strotas* (microchannels) to restore physiological balance. *Virechana Karma*[7], a highly effective *Panchakarma* procedure, detoxifies the body by clearing blocked *Strotas* and expelling vitiated *Doshas*, thereby alleviating the symptoms of Metabolic Syndrome and promoting overall health.

## Case Report

A 41-year-old female patient came to consult in OPD of *Panchakarma* department in Rishikul ayurvedic medical college with complains of weight gain, drowsiness, bodily heaviness, disturbed thyroid profile, and hyperacidity in the last four years.

**H/o Past illness:** Thyroid disorder since 4 yrs.

**Personal history:** Her diet was high in saturated fatty acids, including ghee, butter, and cheese. Due to persistent fatigue, she avoided engaging in physical exercise, contributing to her condition.

### General examination:

General condition: Fair

Pulse rate: 80/min

RR: 20/min

BP: 120/80 mm hg

Weight: 79 kgs

Height: 162cm

Temperature: 98°F

**Diagnosis:**According to NCEP criteria[8] a subject has metabolic syndrome if he or she has three or more of the following; abdominal obesity, hyper triglyceridemia, Low HDL-C, high blood pressure, high blood sugar.

**Investigation (before and after treatment):**Initial assessments revealed elevated levels of S. Cholesterol (T), LDL, and triglycerides. To address these imbalances, a structured *Virechana Karma*[9] regimen was planned, for its potent detoxifying and lipid-reducing properties.

Procedure	Drug, dose	Duration
Deepana Pachana	Chitrakadi Vati 2 tablet thrice a day after taking meal with lukewarm water.	3 days
Snehapana	Goo-Ghrta as per Koshtha and Agni (in morning with empty stomach)	6 days
Abhyanga Swedana	Abhyanga with Tila Taila (35 min) and Sarvanga Sweda (10-15 min)	3 days
Virechana	Virechana Yoga with Trivritta Avleham	1 day
Sansarjana Karma	Diet as per Madhyam Shuddhi (from the evening of Virechana Karma day)	5 days

## Observation and Results

The patient experienced 17 Vegas indicating *Madhyama*-level *Shuddhi* (Moderate purification), outcomes were meticulously assessed both before *Deepana Pachana* (digestive and metabolic enhancement) and after *Sansarjana Karma*. Patient felt relief in hyperacidity, lightness in body and felt more energetic and refreshed. There was significant improvement in the symptoms as level as the objective parameters given below.

Parameters	Before treatment	After treatment
Total cholesterol	154	134
Triglycerides	246	93
HDL	31.5	41
VLDL	40.9	18.53
CHOL/HDL Ratio	4.89	3.26
Weight	68 kg	64 kg
Waist circumference	97cm	95 cm

**APOLLO DIAGNOSTIC**  
Exposure Engineering

Collected: 20/08/2024 01:18PM  
Received: 20/08/2024 01:28PM  
Reported: 20/08/2024 02:28PM  
Status: Final Report  
Client Name: PCC GARVHAL DIAGNOSTICS  
Centre Location: 5, Jyoti Vihar, Jyoti Vihar

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Test Name	Result	Unit	Bio. Ref. Interval	Method
LIPID PROFILE - SERUM				
TOTAL CHOLESTEROL	134	mg/dL	<200	CHEMILUMINO
TRIGLYCERIDES	93	mg/dL	0-150	GPO, Trinder
HDL CHOLESTEROL	41	mg/dL	40-100	CHOD
NON-HDL CHOLESTEROL	93	mg/dL	<130	Calculated
LDL CHOLESTEROL	74.9	mg/dL	<100	Calculated
VLDL CHOLESTEROL	18.53	mg/dL	<50	Calculated
CHOL / HDL RATIO	3.26		0.4-5.7	Calculated
ATHEROGENIC INDEX (AI)	<0.01		<0.11	Calculated

Comment:  
Reference Interval as per National Cholesterol Education Program (NCEP) Adult Treatment Panel III Report.

	Desirable	Borderline High	High	Very High
TOTAL CHOLESTEROL	<200	200 - 239	≥ 240	
TRIGLYCERIDES	<150	150 - 199	200 - 499	≥ 500
LDL	Optimal <100 Near Optimal 100-129	130 - 159	160 - 189	≥ 190
HDL	Optimal >60			
NON-HDL CHOLESTEROL	Optimal <130 Above Optimal 130-159	160-189	190-219	≥ 220

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### After Treatment

## Discussion

Metabolic Syndrome can be comparable with *Santarpanjanya Vikaras* (Comprise of diseases due to over nutrition and defective tissue metabolism). Its main sign is central obesity so may be correlated with *Medhovidhi* or *Sthaulya*. *Virechana Karma* is line of treatment of *Bahudoshawastha* and *Santarpana Janya Vyadhi*[10], infact many diseases in which morbid *Doshas* are present in *Medo Dhatu*. The superlative treatment for *Pitta Dosha* and *Pitta Sthana Vyadhi* (*Yakrita*) is *Virechana Karma*. According to *Ayurvedic* principles, *Virechana* therapy, a type of therapeutic purgation, can significantly reduce cholesterol levels by decreasing its absorption in the gut, primarily impacting the levels of total cholesterol, LDL cholesterol, and triglycerides, while potentially increasing HDL ("good") cholesterol; this effect is attributed to its influence on the liver function as the primary site of *Pitta* in *Ayurveda*, which is associated with lipid metabolism.

**Healthians**

Patient Name: [Redacted]  
Age/Gender: 41 / M  
Order ID: 11454521509  
Refused By: Self  
Consent Given: 17/08/2024  
Sample Type: SERUM

Barcode: E1427570  
Sample Collected On: 17/08/2024 00:26AM  
Sample Received On: 17/08/2024 02:44PM  
Report Generated On: 17/08/2024 05:07PM  
Sample Transportation: Maintained ✓  
Report Status: Final Report

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Test Name	Value	Unit	Bio. Ref. Interval
<b>Lipid Profile</b>			
Total Cholesterol	154.0	mg/dL	Desirable: <200 Borderline: 200-239 High: ≥240
Method: ENZYMATIC Machine: ROCHE COBAS PURE			
Serum Triglycerides	246.0	mg/dL	Desirable: <150 Borderline high: 150-199 High: 200-499 Very high: ≥500
Method: Enzymatic Machine: ROCHE COBAS PURE			
Serum HDL Cholesterol	31.5	mg/dL	40-60
Method: ENZYMATIC Machine: ROCHE COBAS PURE			
Serum LDL Cholesterol	81.7	mg/dL	Optimal: <100 Near Above Optimal: 100-129 Borderline High: 130-159 High: 160-189 Very High: ≥190
Method: Enzymatic Machine: ROCHE COBAS PURE			
Serum VLDL Cholesterol	40.9	mg/dL	<50
Method: Calculated Machine: ROCHE COBAS PURE			
Total CHOL / HDL Cholesterol Ratio	4.89	Ratio	3.30 - 4.40
Method: Calculated			
LDL / HDL Cholesterol Ratio	2.59	Ratio	Desirable Low Risk: 0.3-0.9 Low-Moderate Risk: 1.0-0.9 Elevated High Risk: ≥0.9
Method: Calculated			
HDL / LDL Cholesterol Ratio	0.39	Ratio	Optimal: >0.4 Moderate: 0.4 to 0.3 High: <0.3 0.0 - 160.0
Method: Calculated			
Non-HDL Cholesterol	122.5	mg/dL	
Method: Calculated			

Dyslipidemia is a disorder of lipoprotein metabolism in the body and involves together, contribution or deficiency of lipoproteins means increase in the level of one or more of the following: Total Cholesterol, low-density lipoprotein (LDL) and/or triglyceride concentrations.  
Dyslipidemia also includes a decrease in the "good" cholesterol or high-density lipoprotein (HDL) concentration in the blood.

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### Before Treatment

During *Snehapana*, the intake of polyunsaturated fatty acids stimulates the oxidation of cholesterol into bile acids. When a lipid-rich diet enters the duodenum, the hormone Cholecystokinin is released, triggering gallbladder contraction and bile secretion. *Virechana Karma* not only promotes this natural process but also restores the proper functioning of *Agni* (digestive fire) and ultimately optimizes liver functions, contributing to metabolic balance. Once liver function is restored, cholesterol synthesis can be regulated, and cholesterol excretion may increase through stimulated bile production. This process helps transport harmful substances from peripheral tissues to the intestine for elimination. Notably, even when dietary fats are excluded, endogenous fats continue to appear in faeces, suggesting that excess lipids from plasma and tissues are mobilized to the intestine for excretion through *Virechana Karma*. This underscores the effectiveness of *Purvakarma* in drawing morbid *Doshas* from the *Shakha* (peripheral tissues) to the *Kostha* (digestive tract), facilitating their complete elimination.

**Reduces cholesterol absorption:** By inducing bowel movements, *Virechana* helps eliminate excess cholesterol from the body before it can be reabsorbed into the bloodstream.

**Liver function regulation:** As the liver is considered the primary site of *Pitta* in *Ayurveda*, *Virechana* is believed to positively impact liver function, thereby aiding in cholesterol regulation.

**Lipid profile improvement:** Studies have shown that *Virechana* can lead to a decrease in total cholesterol, LDL cholesterol, VLDL cholesterol, and triglycerides, while potentially increasing HDL cholesterol.

## Conclusion

Metabolic syndrome is a constellation of interconnected physiological, biochemical, clinical and metabolic factors that directly increase the risk of CVD and Type 2 Diabetes Mellitus. It can be concluded by above discussion that metabolic syndrome can be compared with *Santarpanjanyavyadhi*, *Medopradoshaja Vikara* and *Medosroto Dusti*. *Virechana Karma* is line of treatment of *Bahudoshawastha* and *Santarpana Janya Vyadhi*.

So, *Virechana Karma* was very effective in reducing the cholesterol, triglycerides level and VLDL and in increasing HDL (good cholesterol).

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