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# Effect of *Nitya Virechana* in Hypercholesterolemia - A Case Report

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## ABSTRACT

Cholesterol is circulating lipid, part of cell membranes used for synthesis of steroid hormones, bile salts and vitamin D. It is derived from diet as well as synthesized within the body in liver which is essential for proper functioning of the body. The fat tissue mixed with *Ama* is imbalanced cholesterol. This is responsible for altered quality of fat tissue and cholesterol. It creates number of pathological conditions affecting multiple systems including IHDs, Strokes etc. High cholesterol raises risk for Cardiac ailments like cardiac arrest etc. *Nitya Virechana* can be planned in *Alpa Bala Rogi* to eliminate excessive aggravated *Doshas* (in *Bahu Doshavastha*) in small quantity on daily basis. *Nitya Virechana* in *Hriswa / Madhyama Matra* without any *Purvakarma* helps for *Koshtha Shuddhi*, *Srotoshodhana* (reducing *Margavarodha*) and *Agni Vriddhi*, controls further progression of disease. In present case study the patient was said to be healthy before 2 years. He gradually gained weight overtime. Since last 3 months he had complained of fatigue with exertional dyspnoea. *Nitya Virechana* helped patient in many aspects within two months.

**Key words:** Cholesterol, Meda Dhatu, *Nitya Virechana*, *Sthoulya*, *Margavarodha*.

## INTRODUCTION

Hypercholesterolemia may cause IHD, Infarcts like serious medical conditions. Cholesterol (Type of fat) present in blood classified into high-density cholesterol which is said to be cardio protective and low-density, if present in excess quantities may cause coronary blockages. Liver produces approximately 800 mg of cholesterol per day enough for an average adult.

According to WHO, Obesity with Hypercholesterolemia is raising unhealthy condition strongly associated with

metabolic disorders like diabetes, hypertension, cardiovascular disease, increased risk of morbidity and mortality in both developed and developing countries.<sup>[1]</sup>

According to WHO Statistics Report 2012, globally 1:6 adults are obese and nearly 2.8 million individuals die each year due to overweight or Obesity. The risk for disorders appears to start from a body mass index (BMI) of about 21 kg/m<sup>2</sup>. Obesity generally classified as generalized Obesity and abdominal Obesity. Individuals with Obesity have higher rates of mortality and morbidity compared to non-obese individuals.<sup>[2]</sup>

Ayurveda emphasizes importance of metabolic processes in health promotion as well as disease management. *Agni* is the term used in *Ayurveda* for defining collectively all bodily metabolic activities. *Ayurveda* classified *Agni* into *Jatharagni* - located in alimentary tract essential for major metabolic processes, *Dhatwagni* - At tissue level capable of processing metabolic requirements of tissues and *Bhootagni* - subtle metabolic processes that happen at cellular level.<sup>[3]</sup>

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More to add, overweight and Obesity have reached epidemic proportions in India in the 21<sup>st</sup> century affecting 5% of country's population.<sup>[4]</sup> *Medoroga* is an independent disease dealt by *Madhavakara*<sup>[5]</sup> and *Bhavamishra*<sup>[6]</sup> it is a known risk factor - component of *Sthoulya* (Obesity) and many other diseases.

In the present case study, observation of *Katuki + Triphala + Aragwadha + Trivrut Yukta Leha* with lipidolytic action aims at regulating fat accumulation well before the accumulated fats establish as Obesity related complications

### AIM

To observe the effect of *Nitya Virechana* in Hypercholesterolemia

### OBJECTIVE

To find out the effect of *Nitya Virechana* in *Medoroga*.

### MATERIALS AND METHODS

This study carried out in Panchakarma Department, AMV, Hubballi at OPD level. In present case, *Nitya-Virechan Leha* Prepared with *Katuki, Trivrut, Aragwadha, Triphala* 10gms daily on Empty stomach with Hot water administered to treat Hypercholesterolemia for 2 months. Patient was advised to consume Hot water for minimum three hours. *Alpa Ghrita* and *Saindhava Lavana Yukta Jowar Ganji* was given as lunch. Rice and *Mudga Yusha* as Dinner in the evening. Patient was allowed to continue his routine work but restricted from Journey, *Ativyayam, Atimaithun* and *Divaswapna*.

### CASE REPORT

- Name of the patient : ABC
- Age : 50 years
- Gender : Male
- OPD no : 67
- Address : Airport Road, Hubballi
- Dist : Dharwad
- State : Karnataka

- Occupation : Newspaper agent
- Marital status : Married
- First Consultation : 02/01/2020

### Complaints

SN	Present complaint	Duration
1.	Increase weight	3-4 months
2.	Fatigue easily	3 months
3.	General weakness	3 months
4.	Excessive sweating	3 months
5.	Excessive hunger	3 months
6.	Exertional Dyspnoea	3 months

### Findings

#### Subjective criteria

1. General weakness
2. Excessive sweating
3. Excessive hunger
4. Fatigue easily
5. Exertional dyspnea

#### Objective criteria

1. Body Mass Index (weight in kg divided by height in meters square)
2. Lipid profile
3. Weight

#### History of Present illness

Patient was apparently healthy before 2 years. He gradually increased weight since last 3 months of about 6 kg, which was associated with general weakness, excessive sweating, excessive hunger, Fatigue on doing daily activities and Exertional dyspnea. Patient began with morning walks for 1 km and mild exercises at home however he could not get satisfactory results hence approached Panchakarma OPD for further management.

**History of Past:** N/H/O - DM, IHD

**Family history:** Not significant

### Personal History

- Diet - Mixed vegetarian less of green leafy vegetables, low fibers, indulges in fatty and sweet foods
- Addiction - nil
- Sleep - Sound sleep
- Bowel - Clear
- Micturation - 5-6 times/day

### Vitals

- Pulse rate - 70 b/min
- Respiratory rate - 20/min
- Blood pressure - 140/90mmHg
- Temperature - 97°F
- Weight - 94 Kg
- Height - 5.4ft
- BMI - 34.6

### General Examination

- Conscious - Awake, well oriented
- Nutrition - Moderate
- Gait - Normal
- Pallor - Absent
- Icterus - No yellowish discoloration seen
- Clubbing - Absent
- Cyanosis - Absent
- Lymphadenopathy - Absent
- Edema - Absent

### Systemic Examination

- CNS - Conscious, Well oriented
- CVS - S1 & S2 Heard, No Added Sounds
- RS - Air Entry Bilaterally Equal
- Per Abdomen - Soft, Non Tender

### Ashtavidha Pariksha

- Nadi : 70/min
- Mutra Pravrutti : Prakruta, freq. : 5 - 6 times/day
- Mala Pravrutti : Prakruta
- Jihwa : Alipta
- Shabda : Prakruta
- Sparsha : Anushna sheeta
- Drik : Prakruta
- Akriti : Pravara (obese)

### Dashavidha Pareeksha

- Prakriti : Pitta kapha
- Vikriti : Kapha
- Sara : Madhyama
- Samhanana : Pravara
- Pramana : Madhyama
- Satmya : Madhyama
- Satva : Madhyama
- Ahara Shakti : Uttama
- Vyayama Shakti : Avara
- Vaya : Madhya Vaya

### Nidana Panchaka

- Intake of Madhura, Guru, Snigdha and Sheeta Ahara
- Excessive food intake
- Sitting for long time
- Sleeping especially just after lunch.

### Roopa

- Uncontrolled increase in weight
- Dyspnoea on exertion

### Samprapti Ghataka

- Dosha-Kapha (Vridhhi) Dravyata, Gunata and Upalepa Yukta Avarana as Karmata.
- Dushya - Meda Dhatu

- Srotas - Rasavaha and Medovaha
- Prakara - Sanga
- Udbhava Sthana - Amashaya
- Sanchara Sthana - Rasayani
- Vyakta Sthana - Sarva Sharia
- Roga Marga - Madhyama
- Sthana Samshraya - Sarva Sharia
- Adhistana - Medo Dhatu

**Samprapti**

Nidana Sevana (Kapha Medo Vardhaka Ahara-Vihara)



Jatharagni Mandya



Saama Anna Rasa Utpatti



Predominance of Aapa and Prithivi Bhoota



Medo Dhatwagni Mandya



Medosrotodushti (Sanga)



Vata Prakopa



Sanchaya of Vata in Kostha



Ati Ahara Sevana



Sanchya of Apachita Meda in Sphik, Sthana, Udara



Hypercholesterolemia

**Differential Diagnosis:** Sthoulya, Shwasa, Medovridhhi

**Diagnosis:** Hypercholesterolemia

**Sadhyasadhya:** Kasta Sadhya

**Treatment Advised**

Procedure	Medication	Dose	Anupana	Duration
Nityavirechana (10-01-2020 to 10-03-2020)	Katuki + Triphala + Aragwadha + Trivrut	10gm daily empty stomach in morning	Draksha Kwatha	2 months

**OBSERVATIONS AND RESULTS**

A significant difference was observed in all parameters of assessment post treatment, which were reflected in the investigations performed, the details are as follows:

Parameters	Before treatment	After treatment
Total Cholesterol	276 mg/dl	192mg/dl
HDL	52mg/dl	45mg/dl
LDL	87mg/dl	99mg/dl
VLDL	137mg/d	48mg/dl
Triglycerides	685mg/dl	240mg/dl
Weight	94kg	86.8kg
Hb	12.7gm%	13.0gm%
HbA <sub>1c</sub>	5.80%	5.69%
BMI	34.6	32.8

**DISCUSSION**

Hypercholesterolemia is the term used to refer to a high blood cholesterol level. Cholesterol is a waxy substance that is produced by the liver and is a component of all cells found in the body.

It is a form of hyperlipidaemia, hypolipoproteinaemia and dyslipidaemia. Elevated levels of HDL cholesterol and LDL in the blood may be a consequence of diet, obesity, inherited diseases, or the presence of other diseases such as type 2 diabetes and an underactive thyroid. All the lipoproteins carry cholesterol, but

elevated levels of the lipoproteins other than HDL (termed non-HDL cholesterol), particularly LDL-cholesterol, are associated with an increased risk of atherosclerosis and coronary heart disease. In *Ayurveda* which can be linked to an increase in *Medas* in the body and is linked to *Medo Roga*.

The result obtained regarding the parameter of lipid profile showed marked improvement. The difference in total serum cholesterol is 84 mg/dl, serum triglycerides is 445 mg/dl, serum VLDL is 89 mg/dl and serum HDL is 7 mg/dl. The internal medication used for *Nitya Virechana* In this case constituted of *Triphala*, *Katuki*, *Aragvadha* and *Trivrut* which are *Rooksha*, *Teekshna*, and *Ushna* in nature, by virtue of these qualities it helps to penetrate deeper channels and remove obstruction which is the main pathology involved. Because of the above properties, it aids in the liquefaction of these fatty blockages in the circulating channels. Drugs used mainly possesses *Tikta-Katu Rasa* along with *Laghu*, *Rooksha*, and *Tikshana Guna*, which aids in *Sneha-Meda-Kleda Soshana*.

The drug *Katuki* is a combination of bitter taste, pungent *Vipaka*, dryness, lightness attributes, *Katuki* helps in mitigating the *Kapha Dosha*. *Aragvadha* helps to relieve *Ama* and detoxifies the digestive tract and having purgative action. Because of its purgative action, it expels the *Mala* from large intestine without causing irritation to intestines. *Trivrut* by virtue of its strong, pungent and piercing nature, it helps in expelling *Doshas* from the *Kostha* by *Rechana* property. It dilates *Srotas* and acts at cellular level. *Triphala* is known for its spasm releasing, it also possess *Rechana* properties and does not let the bad cholesterol i.e. LDL, low density lipo protein to propagate in the body and promotes the production of good cholesterol i.e. HDL in the body.

In the present case study *Nityavirechana* with the above-mentioned drugs helped in removal of vitiated *Doshas* from the body and opened the *Srotomukha* to bring *Samyavastha* of *Doshas*. This treatment helped to relieve symptoms of diseases and an attempt to provide safe and effective treatment to the patient and

with ease of consumption. The effect was also proven clinically with significant weight loss as well as changes in the cholesterol levels.

## CONCLUSION

Hypercholesterolemia shows its resemblance to *Medovaha Srotodusthi Vikara* based on the causative factor, clinical features and pathophysiology. *Nityavirechana* plays potential role in management as well as on its prevention by reversing pathogenesis. While this case study was conducted with a single patient for a short duration, the mass study with a broad statistical approach is necessary for further evaluation.

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