



## ROLE OF SHODHANA AND SHAMANA CHIKITSA IN THE MANAGEMENT OF DYSLIPIDEMIA –A CASE STUDY

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### ABSTRACT

Dyslipidemia is defined as elevated total cholesterol (TC), low-density lipoprotein cholesterol (LDL-C), triglycerides (TG); low high-density lipoprotein cholesterol (HDL-C); or a combination of these. This type of abnormality can lead to the development of atherosclerosis which in turn can lead to coronary artery disease (CAD), cerebrovascular diseases (CVD), peripheral vascular diseases (PVD), etc. The prevalence of dyslipidemia in India is 7.5% among adults aged between 15 to 64 years, with an even higher prevalence (62%) among young male industrial workers. Dyslipidemia does not produce any symptoms until the occurrence of a complication such as myocardial infarction due to early atherosclerosis. Dyslipidemia can be explained in light of *Santarpanjanya vikara* according to Ayurveda. *Atisantarpana nidana* leads to *Kapha prakopa* and *Medodushti* playing vital role in the development of dyslipidemia. *Shonita Abhishyanda* is a condition where *Abhishyandi guna* of *Rakta* increases due to the *Atisantarpana nidana sevana*. *Apatarpana chikitsa* should be adopted in the management of *Santarpanjanya vikara*. *Apatarpana/langhana* is mainly of two types viz. *Shodhana* and *Shamana*. Hence to assess the effect of *Shodhana* and *Shamana chikitsa* on dyslipidemia, this case study was conducted.

**Keywords:** Dyslipidemia, *Virechana*, *Vidangadi lauha*

## INTRODUCTION

Lipids in our body are generally obtained from dietary (animal) sources or synthesized in the liver. All cells rely on cholesterol as building blocks to create multiple membranes. Cholesterol, triglycerides, and phospholipids constitute the major lipids. These lipids are insoluble in plasma, and hence, cannot be transported directly through the blood. So the lipids combine with proteins and are transported as lipoproteins.<sup>[1]</sup> Dyslipidemia remains asymptomatic until the occurrence of any complications.<sup>[2]</sup> Complications of dyslipidemia such as coronary artery disease (CAD), cerebrovascular diseases (CVD), and peripheral vascular diseases (PVD) occur as a result of atherosclerosis.<sup>[3]</sup> Epidemiological studies have established a strong correlation between premature coronary artery disease (CAD), cardiovascular disease (CVD), and serum cholesterol levels. World Health Organization (WHO) in 2002 reported that high cholesterol level is one of the main non-communicable disease-related risk factors in India. The Indian Council of Medical Research (ICMR) surveillance project reported a prevalence of dyslipidemia of 37.5% among adults aged between 15 to 64 years, with an even higher prevalence of dyslipidemia (62%) among young male industrial workers.<sup>[4]</sup>

Dyslipidemia can be explained according to Ayurveda under the umbrella term *Santarpanajanya vikara*. These are the group of disorders that occur due to *Atisantarpana*. *Atisantarpana* includes the etiological factors that mainly vitiate *Kapha dosha*.<sup>[5]</sup> *Shonita Abhishyanda* is such a disease in which the *Abhish-*

*yandi guna* is increased in *Rakta*. This may even lead to death.<sup>[6]</sup> As per Sushruta, *Atisantarpana nidanas* including dietary and lifestyle factors lead to increased *Madhura bhava* of the *Annarasa*. This type of *Annarasa* does not nourish the *Dhatus* but contributes to the development of excessive *Meda*.<sup>[7]</sup> Increased *Meda* when passed to *Raktadhatu* leads to *Shonita Abhishyanda* which can cause *Srotorodha* and its complications.

*Apatarpana chikitsais* explained for the management of *Santarpanajanya vikara* based on *Visheshasiddhanta*. *Apatarpana/langhana* is mainly of two types viz. *Shodhana* and *Shamana*. In this case study, *Virechana* is given as *Shodhana* followed by *Vidangadi*

*lauha* is administered orally as *Shamana chikitsa*.

### Patient information

A 45-year-old male patient who is a hotel owner by profession visited Kayachikitsa OPD of Sri Dharmasthala Manjunatheswara Ayurveda Hospital, Hassan with complaints of increased body weight, general body weakness, heaviness of the body, and dyspnea on exertion for 2 years. He habitually followed high fat diet intake, less physical exercise, day sleep, etc. He is not a known case of diabetes or hypertension and is not under any long-term medication. He doesn't have any family history of lipid disorders. He underwent allopathic treatment for the same complaints but did not observe any significant relief.

**Table 1: Timeline of the case**

Dates	Relevant medical history and interventions
May 2020	Healthy with normal body weight and BMI
December 2020	The observed increase in body weight
March 2021	General body weakness, heaviness of the body and dyspnea on exertion
June 2021	Underwent allopathic conservative management for the same
December 2021	Gradual increase in body weight, BMI, and other complaints
February 2022	Admission to SDMCAH, Hassan

## Clinical Findings

### General examination

The general condition of the patient was fair, and his vital signs were found to be normal. He was obese. He had normal appetite and bowel-bladder habits. His sleep was sound.

### Vital signs and Physical Examination:

Blood Pressure -120/90 mmHg

Heart Rate -70/min

Height -170 cm

Weight -85 kg

BMI -29.41 kg/m<sup>2</sup> (Overweight)

### Diagnostic assessment

**Table 2: Lipid profile before treatment**

Sl No.	Parameter	Result	Reference range
1	Total cholesterol	286 mg/dl	150-200 mg/dl
2	HDL cholesterol	58 mg/dl	30-70 mg/dl
3	LDL cholesterol	192 mg/dl	< 150 mg/dl
4	Triglycerides	392 mg/dl	< 150 mg/dl
5	VLDL cholesterol	65 mg/dl	05 – 35 mg/dl
6	TC/HDL ratio	4.93	< 3.5 low risk 3.5 – 5 moderate risks > 5 high risks

**Diagnosis:** *Santarpanajanya shonita abhishyanda* (Secondary dyslipidemia)

### Therapeutic interventions

The patient was approached with *shodhana chikitsa* initially followed by *shamana chikitsa*. The treatment was planned taking into consideration the etiology, clinical features, findings of clinical examination, and laboratory investigations. *Shodhana* was given in the form of *Virechana* and *Deepana-pachana, Rukshana,*

*Snehana, Swedana* preceded it. Thirteen *Virechanavegas* were observed and *Samsarjana krama* for *Madhyama shudhi* was advised. After *Samsarjana krama, Shamana chikitsa* was given with *Vidangadi lauha* for a period of 30 days. Patient's complaints, clinical examination findings, and laboratory findings were assessed in two intervals: after *Shodhana* and *Shamana chikitsa*.

**Table 2: Timeline of the intervention**

Date	Time	Treatment
04/02/2022	10.00 AM	Admitted
<b>ShodhanaChikitsa</b>		
04/02/2022 to 06/02/2022	09.00 AM to 09.45 AM	1. <i>Sarvanga Udvartana</i> followed by <i>Bashpa sweda</i> 2. <i>Deepana Pachana</i> with <i>Chitrakadi vati</i> 1tid after food with warm water
07/02/2022 to 11/02/2022	07.30 AM	<i>Snehapana</i> with <i>Varunadi ghrita</i> in <i>Arohana krama</i> till <i>Samyak snigdha lakshana</i> (30ml, 70ml, 110 ml, 160 ml, 190 ml)
12/02/2022 to 14/02/2022	09.00 AM to 09.45 AM	<i>Sarvanga abhyanga</i> with <i>Murchita tilataila</i> followed by <i>Bashpa sweda</i>
14/02/2022	08.30 AM	<i>Virechana</i> with <i>Trivritt lehya</i> 60 gm + warm water 13vegas observed ( <i>Madhyama shudhi</i> )
15/02/2022 to 16/02/2022	--	<i>Samsarjana krama</i>
<b>ShamanaChikitsa</b>		
17/02/2022 to 18/03/2022	--	Tab. <i>Vidangadi lauha</i> (250 mg – 2 tablets) bd before food with warm water

### Follow-up and Outcomes

Patient complaints, body weight, BMI, and laboratory investigation findings were assessed after *Shodhana chikitsa* and *Shamana chikitsa* respectively. A significant reduction in the symptoms was observed after *Virechana karma* and *Shamana chikitsa*. Body weight and BMI were also reduced. Significant improvements were noted in the lipid profile.

**Table 3: Patient-assessed outcomes**

Sl No.	Parameter	Before treatment	After <i>Shodhana</i>	After <i>Shamana</i>
1	Body weight	85 kg	81 kg	76 kg
2	General body weakness	Present	20% reduction	70% reduction
3	Heaviness of body	Present	60% reduction	Absent
4	Dyspnea on exertion	Present	40 % reduction	Absent

**Table 4: Clinician-assessed outcomes**

Sl No.	Parameter	Before treatment	After <i>Shodhana</i>	After <i>Shamana</i>
1	BMI	29.41	28.02	26.29
2	Total cholesterol	286 mg/dl	228 mg/dl	158 mg/dl
3	HDL cholesterol	58 mg/dl	55 mg/dl	52 mg/dl
4	LDL cholesterol	192 mg/dl	164 mg/dl	110 mg/dl
5	Triglycerides	392 mg/dl	270 mg/dl	197 mg/dl
6	VLDL cholesterol	65 mg/dl	48 mg/dl	33 mg/dl
7	TC/HDL ratio	4.93	4.32	3.03

### DISCUSSION

*Santarpanajanya vikara* is a broad group of disorders which are having a common etiology ie. *Atisantarpana* (over-nourishment). Etiological factors like in-

take of food articles having *Snigdha-guru-pichilaguna*, *madhura rasa*, lack of physical exercise, and a sedentary lifestyle contribute to the development of *Santarpanajanya vikara*. *Medoroga* develops due to the same etiology in which excess *Medodhatu*

along with *Tridosha* leads to serious complications.<sup>[8]</sup> *Shonita abhishyanda* is such a disease occurring due to the increase in *Abhishyandi guna* of *Rakta*. This can be considered as an outcome of *Atisantarpana* and *Me-dovridhi*. When the *Abhishyandi guna* is increased, it can lead to *Srotorodha* in *Raktavaha srota*.<sup>[9]</sup> A similar pathological process is happening in dyslipidemia. Dyslipidemia is a disorder of lipoprotein metabolism, which may include lipoprotein overproduction or deficiency, or both. This disorder may manifest as elevated plasma cholesterol, TG, or both, or a low plasma concentration of high-density lipoprotein or all three contribute to the development of atherosclerosis.<sup>[10]</sup>

In this case study, the patient reported indulgence in *Santarpana nidanas* like high-fat diet intake, less physical exercise, and day sleep. The condition was diagnosed as secondary dyslipidemia based on etiology, clinical presentations, and laboratory investigations. *Apatarpana/langhana chikitsa* is advised for *Santarpanajanya vikaras*. *Langhana* can be adopted in two ways; *Shodhana* and *Shamana*.<sup>[11]</sup> Among *Shodhana chikitsa*, *virechana* was advised for this patient considering the involvement of *Raktadhatu*. Initially, *Rukshana* and *Deepana-pachana* were advised for 3 days in order to increase the *Agni* and remove *Ama*. *Snehapana* was given with *Varunadi ghruta*. It is *Kapha-medo hara* and *Agni deepaka*.<sup>[12]</sup> After *Abhyantara-bahya snehana* and *Swedana*, *Virechana* was given with *Trivrit lehya* in which 13 *Vegas* were observed. Clinical symptoms, BMI, and lipid profile were assessed after *Virechana* which showed significant improvement. This may be due to the benefits of *Virechana* like *Srotoshuddhi* (clearing the obstructions in *srotas* and promoting proper nourishment of *Dhatus*) and *Dhatusthirathva* (maintaining the optimum quantity and quality of *Dhatus*).

*Virechana* is the best treatment for *Pitta Dosh*a which might have helped in excreting a large amount of bile. This indirectly helps in the excretion of cholesterol. The site of action of *Virechana* is *Adhoamashaya* (small intestine) where the reabsorption of cholesterol occurs. *Virechana* helps to convert cholesterol into a non-absorbable form. *Yakrit* (liver)

is a *Pittasthana* and *Virechana karma* has an effect on liver functions. Thus, *Virechana* helped in preventing cholesterol synthesis and increased the excretion of cholesterol by stimulating bile production and secretion.<sup>[13]</sup>

*Vidangadi lauha* was selected for *Shamana chikitsa*. It contains ingredients viz. *Vidanga*, *Triphala*, *Musta*, *Pippali*, *Shunti*, *Bilva*, *Chandana*, *Hreevera*, *Patha*, *Usheera*, *Bala*, and *Lauha bhasma*.<sup>[14]</sup> The ingredients of *Vidangadi lauha* predominantly have *Tikta-kashaya rasa*, *Laghu-ruksha guna*, *Sheeta veerya*, and *Madhura vipaka*. These properties help in the reduction of excessive *Meda*. They also normalize *Agni* which helps in the formation of proper *Anna rasa* and *Medo dhatu*. Experimental studies on the ingredient drugs showed significant hypolipidemic activity. Most of the drugs lower total cholesterol, triglycerides, and LDL cholesterol and increases HDL cholesterol levels. Antioxidant and free radical scavenging activity of the drugs give protection from lipid peroxidation and oxidative damage. Thus, *Vidangadi lauha* not only lowers lipid levels but also prevents complications like atherosclerosis, coronary artery disease, etc.

## CONCLUSION

Dyslipidemia being a *Santarpanajanya vikara* needs to be managed by *Apatarpana chikitsa*. Hence *Shodhana* and *Shamana chikitsa* were adopted in this case study. *Virechana karma* followed by oral administration of *Vidangadi lauha* for one month showed a significant reduction in the presenting complaints, BMI, and lipid profile. Hence it can be concluded that Ayurvedic *Shodhana* and *Shamana chikitsa* has a significant role in the management of dyslipidemia.

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