

AN OBSERVATIONAL CLINICAL STUDY ON LIPID PROFILE CHANGES BEFORE AND AFTER SHODHNARTH SNEHPAN

[Anupriya Varma](#)¹, [Ashish Varma](#)²

¹Consultant, Department of *Panchakarma*, Janseva Ayurvedic hospital, Surendranagar, Gujarat, India

²Assistant professor, Department of Obstetrics and Gynecology, L.G. Hospital, Ahmedabad, Gujarat, India

Corresponding Author: preeya005@gmail.com

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ABSTRACT

Background: *Snehan* (oleation) has a great role in all *Panchakarma* procedures. The therapeutic procedure by which greasiness is imparted to the body using different kinds of fat (*Ghrita*, *Tail*, *Vasa*, *Majja* etc) is called *Snehan*. *Snehpan* where fat substances are given in increasing doses by Ayurveda physicians, patients may have a fear that it will increase their cholesterol levels, there is this belief that if you consume *ghrita*, oil etc, it will increase your cholesterol levels and also increases the risk of heart disease. We conducted lipid profile reports before and after *Shodhnarth Snehpan* in 10 patients in Janseva Ayurvedic Hospital, Surendranagar, Gujarat, India.

Objectives: to observe Lipid Profile changes before and after *Shodhanarth Snehpan*. **Management and Outcome:** S. cholesterol, Triglycerides, LDL, VLDL in all 10 patients were decreased. HDL however increased which is good cholesterol. **Conclusion:** The study requires a large group for more specific data. From this study, we can say *Snehpan* does not increase S.cholesterol levels.

Keywords: Lipid profile changes, *Shodhanarth snehpan*.

INTRODUCTION

Aabhyantar snehpan (Internal oleation) has an important role in *Utkleshan* (Aggravation) of *Dosha* which is necessary before *Shodhan* (Purification).

But it is first important to know how our body responds to this *Sneh*?? Either it is *Ghrita* or *Taila* or any other fat substance.

1. Digestion in the mouth:

A few things happen in the mouth that start the process of lipid digestion. Chewing mechanically breaks food into smaller particles and mixes them with saliva. An enzyme called lingual lipase is produced by cells on the tongue and begins some enzymatic digestion of triglycerides, cleaving individual fatty acids from the glycerol backbone.

2. Lipid digestion in the stomach

In the stomach, mixing and churning helps to disperse food particles and fat molecules. Cells in the stomach produce another lipase, called gastric lipase. Lingual lipase swallowed with food and saliva also remains active in the stomach. But together, these two lipases play only a minor role in fat digestion, and most enzymatic digestion happens in the small intestine.

3. Lipid digestion in the small intestine

As the stomach contents enter the small intestine, most of the dietary lipids are undigested and clustered in large droplets. Bile, which is made in the liver and stored in the gallbladder, is released into the duodenum, the first section of the small intestine. Bile salts have both a hydrophobic and a hydrophilic side, so they are attracted to both fats and water. This makes them effective emulsifiers, meaning that they break large fat globules into smaller droplets. Emulsification makes lipids more accessible to digestive enzymes by increasing the surface area for them to act. The pancreas secretes pancreatic lipases into the small intestine to enzymatically digest triglycerides. Triglycerides are broken down into fatty acids, monoglycerides (glycerol backbone with one fatty acid still attached), and some free glycerol. Cholesterol and fat-soluble vitamins do not need to be enzymatically digested.

4. Lipid absorption from the small intestine

Next, those products of fat digestion (fatty acids, monoglycerides, glycerol, cholesterol, and fat-soluble vitamins) need to enter into the circulation so that they can be used by cells around the body. Again, bile helps with this process. Bile salts cluster around the products of fat digestion to form structures called micelles, which help the fats get close enough to the

microvilli of intestinal cells so that they can be absorbed. The products of fat digestion diffuse across the membrane of the intestinal cells, and bile salts are recycled back to do more work emulsifying fat and forming micelles.

Once inside the intestinal cell, short- and medium-chain fatty acids and glycerol can be directly absorbed into the bloodstream, but larger lipids such as long-chain fatty acids, monoglycerides, fat-soluble vitamins, and cholesterol need help with absorption and transport to the bloodstream. Long-chain fatty acids and monoglycerides reassemble into triglycerides within the intestinal cell, and along with cholesterol and fat-soluble vitamins, are then incorporated into transport vehicles called chylomicrons. Chylomicrons are large structures with a core of triglycerides and cholesterol and an outer membrane made up of phospholipids, interspersed with proteins (called apolipoproteins) and cholesterol. This outer membrane makes them water-soluble so that they can travel in the aqueous environment of the body. Chylomicrons from the small intestine travel first into lymph vessels, which then deliver them to the bloodstream. Now if we talk about classical texts in *Ayurveda*,

Internal oleation has so many benefits if done according to disease, person and age.

When the *Snehapana* is carried out as a preliminary procedure during the *Shodhana* therapy (*Vamana* and *Virechana*) it is known as *Shodhana Snehapana*². As a part of *Shodhana* procedure, the *Snehapana* is carried out to facilitate the mobilization of the *Dosha* from the site of its manifestation to the site of elimination i.e. *koshtha*. (Bowel movements) In this process, *Utklesha* state of the *dosha* is achieved by the *Snehapana*. It is given early in the morning. According to *Koshtha* days of *Snehpan* can be decided between 5 to 7 days.

Aim and Objectives: To observe lipid profile changes before and after giving *Shodhanarth Snehpan*.

Materials and Methods: Selection of subject: 10 patients who were undergoing *Shodhan* in our hospital were selected irrespective of age, sex, caste and religion.

Type of study: It was an open observational clinical study with a single group only.

Inclusion criteria: Patients who are undergoing *Shodhanarth snehan* procedure.

Exclusion criteria: Patients who are contraindicated for *Shodhanarth Snehan*.

Criteria for assessment: The assessment was done on the objective parameter e.g. Lipid profile changes.

Observations: 10 patients who are being given *Shodhanarth snehan* were registered. Their before and after Lipid profile was done in Janseva Ayurvedic Hospital, Surendra Nagar, Gujarat, India. *Snehan* was given according to their disease condition and *koshtha*. And stopped after achieving *Samyak snehan lakshanas*.

Changes in S. Cholesterol: Mean s. cholesterol before giving *Shodhanarth Snehan* was 180.26 mg/dl,

which remarkably decreased after giving *Virechan* which was 157.9 mg/dl.

Changes in Triglyceride: Mean Triglycerides before giving *Shodhanarth Snehan* was 132.78 mg/dl, which decreased after giving *Virechan* which was 129.2 mg/dl.

Changes in LDL: Mean LDL before giving *Shodhanarth Snehan* was 111.42 mg/dl, which decreased after giving *Virechan* which was 88.66 mg/dl.

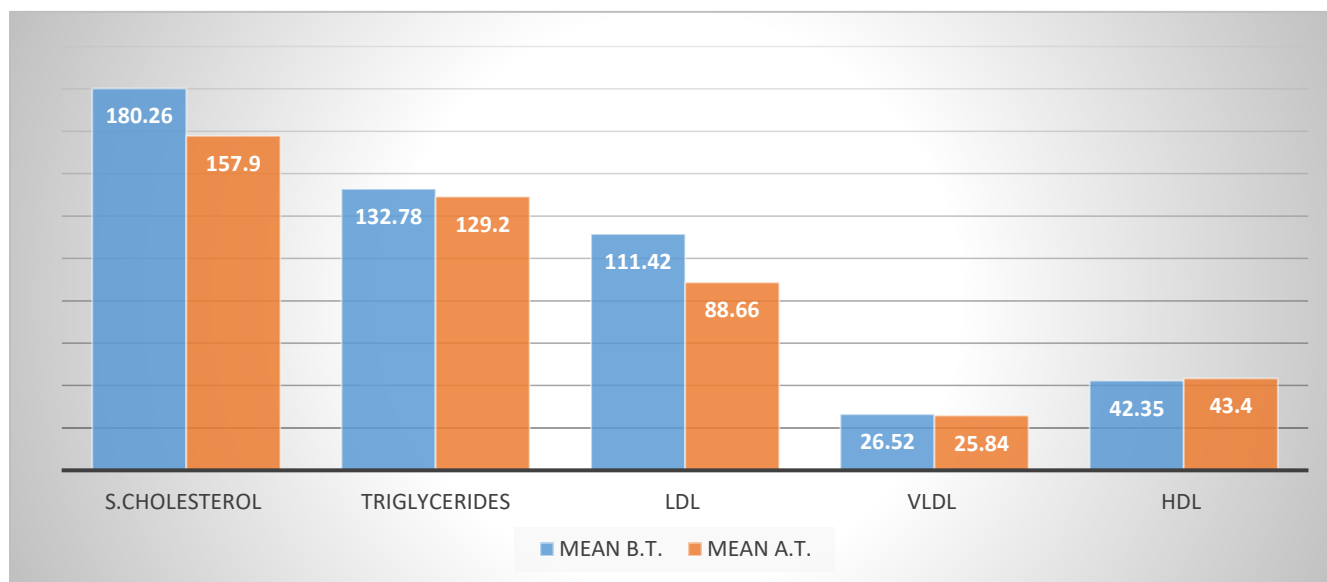
Changes in VLDL: Mean VLDL before giving *shodhanarth snehan* was 26.52 mg/dl, which decreased after giving *Virechan* which was 25.84 mg/dl.

Changes in HDL: Mean HDL before giving *Shodhanarth Snehan* was 42.35 mg/dl, which Increased after giving *Virechan* which was 43.4 mg/dl.

Table 1: Mean lipid profile changes in 10 patients

	MEAN B.T.	MEAN A.T.
S.CHOLESTEROL	180.26	157.9
TRIGLYCERIDES	132.78	129.2
LDL	111.42	88.66
VLDL	26.52	25.84
HDL	42.35	43.4

Chart 1: Mean lipid profile changes before and after *Shodhanarth Snehan*



DISCUSSION

It is a myth that taking *Ghrta* increases weight and Cholesterol. As we can see in the results, serum cholesterol remarkably decreases after *Shodhanarth Snehan*. As we learnt “*Sneh bhuyistho shariram*”, *Sneh* is essential for the body.

Patil et al. in their study concluded that oral ingestion of lipids does not cause a rise in the level of lipids rather it facilitates in bringing the increased level lipids to normal; even if the lipid levels increase during oral ingestion of lipids (*Snehapana*) it is transient and comes to normal after purification (*Samyaka Shodhana*)³.

When emetics or purgatives are administered, these increased amounts of the body fluids are evacuated by which the vitiated *dosha* (humours) and metabolic waste (*mala*) are also expelled, resulting in the radical cure of the disease. Dr Aparna Bagul concluded in their study that the rise in lipids is transient and comes to normal after *Samyaka shodhana*. *Shodhanartha Snehana* is safer if proper *Vamana* and *Sansarjana Krama* are performed afterwards and at the end of therapy, there is improvement in the serum

lipid levels of patients even after administration of lipids in increasing order⁴.

CONCLUSION

S. cholesterol, Triglycerides, LDL, VLDL in all 10 patients were decreased. HDL however increased which is good cholesterol. The study can be done in a larger group for better evaluation.

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