Int J Ayu Pharm Chem
ISSN 2350-0204
www.ijapc.com

CASE STUDY

Ayurvedic Treatment and Food Practice for Isolated Hypertriglyceridemia: A Case Report

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ABSTRACT

Background:
Hypertriglyceridemia, characterized by elevated triglyceride levels in the blood, is a key risk factor for cardiovascular disease. While modern medicine primarily manages this condition with lifestyle changes and pharmacological interventions, Ayurveda, the ancient Indian system of medicine, emphasizes food hygiene, dietary discipline, and holistic practices for health management. This article presents a case report highlighting the role of Ayurvedic food hygiene principles in managing hypertriglyceridemia.

Clinical features:
A 37-year-old male patient working as an army officer, presented with isolated hypertriglyceridemia, with triglyceride levels exceeding 478 mg/dL. His primary complaints included fatigue, indigestion, and occasional bloating. He sought alternative treatment alongside conventional therapy to address his condition holistically.

Intervention and Outcome:
Patient was treated for about two months with Ayurveda formulae Trigonil tablet contains Atasi, Rasona, Jatiphala, Maricha, Harithaki, Bibithaki and Amalaki and also with liposem[1] contains Vrikshamla, Guggulu, Arjuna, Gokshura and Nimba along with Ayurvedic pathyaapathya as Food Hygiene practices like Eating Only during times of hunger, Eating Slowly and Mindfully, Avoiding Bathing immediately after meals, Avoiding Cold and Heavy Foods, Meal Timing and Portion Control. Lipid profile levels were tested from venous blood sample obtained after 12 hours of fasting and plasma concentration of triglycerides was assessed by spectrophotometry method, enzymatic endpoint. After the said treatment, triglycerides dropped from 478 mg/dl at beginning of treatment to 199mg/dl after two months of treatment and further dropped down to 175mg/dl.

Conclusion: This case report can be used as a pointer to state that Ayurveda treatment and ayurvedic diet regimen can be an effective tool for reduction of isolated hyper-triglyceridemia. Further standardized trials are required on larger scale to demonstrate its efficacy and understand the mechanism.

Key Words *Ayurveda, Hypertriglyceridemia, Trigonil, Liposem, Aahara Vidi Vidana*

Received 22nd June 2025 Accepted 31st July 2025 Published 10th September 2025

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INTRODUCTION

Ayurveda, the ancient Indian system of medicine, has been practiced for nearly 5,000 years. It focuses on harmonizing the five elements in the body through a combination of dietary practices, herbal treatments, cleansing therapies, and yoga, fostering balance and well-being on both mental and physical levels. Hyperlipidemia, characterized by elevated or abnormal levels of lipids and lipoproteins in the blood, is a major risk factor for metabolic syndrome, cardiovascular diseases, and hypertension. Globally, high cholesterol contributes to around 18% of cerebrovascular diseases and 56% of ischemic heart disease cases. Together, these conditions are responsible for approximately 4.4 million deaths annually (7.9% of total deaths) and 40.4 million disability-adjusted life years (DALYs), representing 2.8% of the global disease burden[2]. With advancements in modern medicine, the need for safe and effective treatment options continues to grow, positioning Ayurveda as a potential complementary approach in addressing these health challenges. Hypertriglyceridemia, characterized by elevated triglyceride levels in the blood, is a key risk factor for cardiovascular disease. While modern medicine primarily manages this condition with lifestyle changes and pharmacological interventions, Ayurveda, the ancient Indian system of medicine, emphasizes food hygiene, dietary discipline, and holistic practices for health management. This article presents a case report highlighting the role of Ayurvedic food hygiene principles and ayurvedic medicine in managing hypertriglyceridemia.

CASE PRESENTATION

A 37-year-old male patient working as an army officer, presented with isolated hypertriglyceridemia, with triglyceride levels exceeding 478 mg/dL. His primary complaints included fatigue, indigestion, and occasional bloating. He sought alternative treatment alongside conventional therapy to address his condition holistically. About 3 months before presenting himself for Ayurveda treatment. He had not responded convincingly to earlier conventional treatment and his triglycerides levels failed to decrease although total cholesterol had declined. Bowel habits were irregular, pulse and blood pressure were within normal standard limits. No history of diabetes mellitus and no significant ailment history reported.

Ayurvedic Assessment and Management

According to Ayurveda, hypertriglyceridemia correlates with *Medoroga* (lipid metabolism disorder) and *Kapha* imbalance. An individualized plan incorporating food hygiene practices and a specific diet was recommended to manage the condition.

Intervention and Outcome:

The patient underwent Ayurvedic treatment for approximately two months, which included the use of **Trigonil tablets**—a formulation

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containing **Atasi, Rasona, Jatiphala, Maricha, Haritaki, Bibhitaki, and Amalaki**. Additionally, **Liposem**, composed of **Vrikshamla, Guggulu, Arjuna, Gokshura, and Nimba**, was administered. The treatment regimen was complemented with guidance on **Ayurvedic dietary hygiene**, emphasizing practices such as **eating only when genuinely hungry, consuming meals slowly and mindfully, avoiding food intake immediately after bathing, and refraining from cold or heavy foods**. The patient was also advised on **appropriate meal timing and portion control** to support the therapeutic outcome.

Profile levels were tested using venous blood sample obtained after 12 hours of fasting and plasma concentration of triglycerides was assessed by spectrophotometry method, enzymatic endpoint. After the said treatment, triglycerides dropped from 478 mg/dl at beginning of treatment to 199mg/dl after two months of treatment and further dropped down to 175mg/dl. Ayurvedic Food Hygiene Principles Applied:

1. Eating only When Hungry:

Ayurveda emphasizes consuming food only when the digestive fire (*Agni*) is strong. The patient was instructed to avoid eating out of habit or stress. This ensured optimal digestion and reduced the load on the metabolic system.

2. Eating slowly and Mindfully:

The patient was advised to chew food thoroughly and eat without distractions. Slow eating enhances the secretion of digestive enzymes, improves satiety, and prevents overeating—factors that contribute to better lipid management.

3. Taking meals immediately after bathing:

The patient was advised to take meals immediately after bathing, as it is believed that the cooling effect of the bath stimulates core body temperature, thereby enhancing the digestive fire

4. Avoiding Cold and Heavy Foods:

Cold and oily foods, known to aggravate *Kapha* and weaken digestion, were eliminated from the diet. Warm, light, and easily digestible meals were prioritized to support digestion and metabolism.

5. Meal Timing and Portion Control:

Meals were scheduled at regular intervals, with the largest meal consumed during midday when the digestive fire is naturally strongest. Portion sizes were controlled to prevent overloading the digestive system.

Dietary Interventions

The following dietary modifications were also recommended: Inclusion of *Tridoshic* Foods: Barley, green leafy vegetables, and lentils were included to balance *Kapha* and *Pitta doshas*.

Avoidance of Triglyceride-Raising Foods: Sugary, processed, and fatty foods were eliminated.

Use of Digestive Spices: Ginger, cumin, and turmeric were added to meals to enhance digestion and metabolism.Hydration Practices: Warm water with a few drops of lemon juice was consumed in the morning to cleanse the digestive system.

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Outcome

After three months of following Ayurvedic food hygiene practices and dietary recommendations, the patient's triglyceride levels dropped to 175 mg/dL. He also reported improved digestion, increased energy, and reduced episodes of bloating.

Table 1 Blood investigation of lipid profile of the patient

Date	10/08/2024	15/09/2024	24/11/2024
Total cholesterol	197 mg/dl	148 mg/dl	165 mg/dl
TGL (triglycerides)	478 mg/dl	199 mg/dl	175 mg/dl
HDL	27 mg/dl	30.30 mg/dl	32 mg/dl
LDL	108 mg/dl	77.90 mg/dl	98 mg/dl
VLDL	96 mg/dl	39.80 mg/dl	35 mg/dl
Non -HDL cholesterol		118 mg/dl	133 mg/dl

TGL-triglycerides, LDL-Low density Lipoprotein, HDL-High Density Lipoprotein Normal range for TGL (triglycerides): less than 150 normal, 150-199 borderline high, 200- 499 High, more than equal to 500 very high.

Figure 1 Before Treatment

Figure 2 Before Treatment

Figure 3 After 3 months

DISCUSSION

Thus, treatment of about 3 months showed notable changes in the lipid profiles, specifically in triglyceride levels reducing from 478 mg/ dl at baseline to 175 mg/dl (Table no-01). Simple herbalformulations and ayurvedic food practices helped in correcting the lipid metabolism without any reported adverse effects. Tablet Trigonil contains *Atasi, Rasona, Jatiphala, Maricha,Harithaki, Bibithaki* and *Amalaka*. The active compound *Allicin* in *Rasona* (Garlic) improves lipid metabolism by enhancing enzyme

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activity that facilitates lipid breakdown also *Rasona* (Garlic)reduces the synthesis of triglycerides in the liver by suppressing enzymes involved in lipogenesis.

Garlic can reduce the level of TC and LDL instead of HDL and TG, indicating the ability of anti-hyperlipidemia[3]*Jatiphala* (Nutmeg), derived from the seeds of *Myristica fragrans*, Phytochemicals in *Jatiphala*, such as myristicin and elemicin, may modulate enzyme activity involved in triglyceride and lipid synthesis, thereby lowering their levels in the bloodstream[4]. Management with *triphala*, an Ayurvedic formulation reversed the pathological changes in liver tissue and decreased the relative weight of visceral adipose fat pads and findings suggest that triphala and its constituents can counter the effects of an environment (i.e. high dietary intake of fats) and can be used potentially as antiobesity agents with desirable lipid-profile modulating properties[5]Liposem contains Vrikshamla, Guggulu, Arjuna, Gokshura and Nimba shows capacity of hepato-cellular regeneration, Cholegogue and cholertic activity, Membrane stabilizing effect, Antiviral and antioxidant effect, Molecular nutrient effect, Enzyme and metabolic corrections.Vrikshamla (Garcinia indica or Garcinia cambogia) The primary bioactive compound, **HCA**, inhibits the enzyme **ATP citrate lyase**, which is involved in the synthesis of fatty acids and triglycerides. This reduces the formation of triglycerides in the liver. HCA is known to suppress appetite by increasing **serotonin levels**, leading to reduced calorie intake and consequently lower triglyceride production[6].

Guggulu (Commiphora mukul) Guggulu contains bioactive compounds called **guggulsterones**, which regulate lipid metabolism by modulating key enzymes involved in triglyceride and cholesterol synthesis in the liver[7].Arjuna (Terminalia arjuna) The bioactive compounds in Arjuna, such as flavonoids, tannins, and saponins, promote the breakdown of triglycerides and enhance fat metabolism[8].Gokshura (Tribulus terrestris) Contains phytochemicals such as saponins, flavonoids, and **alkaloids**, which protect against oxidative damage and inflammation, both of which are linked to hyperlipidemia[9].Nimba (Azadirachta indica) Nimba contains bioactive compounds like azadirachtin, nimbin, and quercetin, which help reduce the synthesis of triglycerides and cholesterol in the liver.Ayurveda's focus on food hygiene and mindful eating aligns with modern nutritional science, which recognizes the role of meal timing, portion control, and digestive health in metabolic disorders. Practices such as eating only when hungry and slow eating are supported by studies linking these habits to better lipid profiles and weight management.

CONCLUSION

Ayurvedic drugs, food hygiene, combined with dietary interventions, offers a holistic approach to managing hypertriglyceridemia. This case highlights the importance of traditional practices,

such as eating mindfully and respecting digestive rhythms, in modern healthcare. Future studies can further validate these principles in larger populations.

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