

Short-term combined therapy of yoga, ayurveda and naturopathy for dyslipidaemia: a case report

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KEY WORDS

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ABSTRACT

Dyslipidaemia is a condition which comprises several acquired and genetic disorders that cause elevated lipid levels in the body. The elevated lipids may further lead to various health complications such as arteriosclerosis, cardiovascular disease, cerebrovascular and peripheral vascular diseases. A 41-year-old male, non-alcoholic, non-smoking, vegetarian, and self-employed patient reported with abnormally high level of lipids since one year. His Body Mass Index was 27.9 Kg/m² upon arrival. The patient was assessed on 21/12/2020, 09/01/21 and on 15/01/21 for lipid profile. In spite of suffering from dyslipidaemia, the patient was not having any associated complaints. Therefore, he was prescribed an integrated therapy of yoga, Ayurveda and Naturopathy. The results of present case report showed that the total cholesterol was reduced from 305 mg/dl to 250 mg/dl with Yoga, Ayurveda, and Naturopathy treatment. The patient was not prescribed any concomitant allopathic medications during the treatment period. The case study concluded that combined alternative therapies of yoga, Ayurveda and Naturopathy have helped in substantial reduction of abnormal levels of lipids in a short duration.

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Introduction

Dyslipidaemia is a condition that includes several acquired and genetic disorders that cause elevated lipid levels in the body. According to Ministry of Health and Family Welfare approximately 25–30% of urban and 15–20% rural population of India is suffering from dyslipidaemia. Lipids include cholesterol, lipoproteins, LDL (low density lipoproteins), VLDL (Very low-density lipoproteins), chylomicrons, apolipoproteins, and HDL (High density lipoproteins) (1). Dyslipidaemia can be classified into familial (primary) and acquired (secondary) dyslipidaemia. Primary dyslipidaemia is caused due to several genetic disorders inherited by the patient since birth, whereas secondary dyslipidaemia originates typically due to medications (glucocorticoids, amiodarone), unhealthy diet, hyperglycaemia, hypothyroidism, and unhealthy lifestyle (2). Dyslipidaemia leads to various health complications like arteriosclerosis, cardiovascular disease, cerebrovascular and peripheral vascular diseases (3,4).

Generally, the initial treatment is focussed on lifestyle modification along with addition of cholesterol lowering drugs, if required. However, patients with moderately elevated lipids are often advised to focus on low carbohydrate, low fat diet along with physical activity (5).

Integrated therapy of yoga, Ayurveda, and Naturopathy have been found to be effective in controlling dyslipidaemia

and associated complications such as hypertension and diabetes (6,7). Hence, the objective of present case study was to assess the combined effect of Ayurveda, Naturopathy along with yoga on dyslipidaemia.

Case presentation

A 41-year-old male, non-alcoholic, non-smoking, vegetarian, and self-employed presented with dyslipidaemia and recent knee joint pain at Kaivalyadhama Health Care Centre, Lonavla. He had a family history of cardiovascular disorders among father, mother, and grandfather. However, he was not diagnosed with any major cardiovascular disorders except abnormal levels of lipids i.e. dyslipidaemia. Further, he was not taking any antihyperlipidemic drugs for dyslipidaemia. Upon admission, his blood pressure was normal and his weight was 78.5 kg, height was 167 cm and BMI was 27.9 kg/m². He underwent Ayurveda and Naturopathy therapies for two weeks. After completion of two-week treatment, the patient visited Kaivalyadhama again after two months and was enrolled for three weeks. During his stay, the patient was advised intermittent fasting along with daily yoga practices.

The patient was assessed on 21/12/2020, 09/01/21 and on 15/01/21 for lipid profile at an ISO 9001:2015 certified diagnostic laboratory of Kaivalyadhama.

The assessment protocol was explained to the patient and written informed consent was obtained. 12–14 hours fasting blood sample was collected from the vein using 5 ml sterile disposable syringe. The assessment of Serum total Cholesterol, Triglycerides, HDL, and LDL was done using commercially available kits (Span Diagnostics). All the tests were conducted on biochemistry auto-analyser (Vchem next).

Therapeutic intervention

In spite of suffering from dyslipidaemia, the patient was not having any associated complaints, therefore he was prescribed an integrated therapy of Ayurveda, naturopathy, and yoga (Table 1). Further, during follow-up visit of three weeks, the patient was advised sattvic diet along with intermittent fasting. His diet comprised of fruits, vegetables, soups, and *dal*. He was also advised to include 30 minutes walking and increased water intake during his stay.

Table 1: Therapy

Yoga therapy	
Asana	<i>Makarasana</i> variations (4), <i>Ekapada uttanasana</i> , <i>Pawana muktasana</i> , <i>Setu-bandhasana</i> , Prone Position: <i>Makarasana</i> , <i>Niralambasana</i> , <i>Bhujangasana</i> , <i>Ardha Shalabhasana</i> , <i>Marjarasana</i> Sitting Position: <i>Parvatasana</i> , <i>Uttana Mandukasana</i> , <i>Simhasana</i> , <i>Brahma mudra</i> Standing Position: <i>Chakrasana</i> , <i>Konasana</i> , <i>Katichakrasana</i> , <i>Tadasana</i> (Note: Yoga training was given twice a day for 1 hour under the supervision of expert yoga therapist.)
Pranayama	Anulom-Vilom; Omkar & Gayatri Mantra (3 rounds); Bhramari Pranayama (10 rounds)
Ayurveda therapy	
26–31 Oct, 2020	Abyanga, Potli, Nasya, Vicharna, Oil basti, Shirodhara, Katibasti, Manya basti, Netra basti, Hrud basti, Pada abhyanga, Janu basti
Decoction	Medha pachak kadha (Note: Early morning empty stomach for 1 month)
Naturopathy	
19–23 Oct, 2020	Kasavati, Mud Pack Oil application + steam
20 th Oct, 2020	Oil application + Mustard pack Enema, Abdomen + back massage
21 st Oct, 2020	Arm Pack, Chest pack, Face steam, spine bath Local Massage, Local steam
22 nd Oct, 2020	Hot wet pack, mud pack, Under water massage with Epsom salt Full massage + steam
23 rd Oct, 2020	Hot Foot bath, leg pack, mud pack Local massage and local steam

24 th Oct, 2020	Oil application + steam
	Mud bath
20 th Dec, 2020– 15 th January, 2021	Alternate diet along with intermittent fasting
	Morning and evening yoga practices
	Walking 30 min. in the morning.
	Medha pachak kadha three times a day for three weeks.

The findings of present case report indicate that Yoga, Naturopathy and Ayurvedic treatments are effective in reducing cholesterol and triglycerides levels. The patient was not prescribed any concomitant allopathic medications during the treatment period. Almost 20% reduction in total cholesterol levels was achieved in two weeks (Table 2). Therefore, it can be concluded that a combined therapy of Yoga, Naturopathy and Ayurveda were effective in dyslipidaemia.

Table 2: Results

Tests	Date	Total cholesterol mg/dl	Tri-glyceride mg/dl	HDL mg/dl	LDL mg/dl	VLDL mg/dl
Baseline	21.12.20	305	185	58	210	37
Post test	09.01.21	256	98	58	178	19
Follow up	15.01.21	250	65	57	180	13

Discussion

Present case showed substantial reduction in cholesterol and triglyceride levels within three weeks of Yoga, Ayurveda and Naturopathy therapies. Previous randomized controlled trial with three months of yoga intervention in diabetic patients showed significant reduction in cholesterol, triglyceride and LDL levels (8). Further, Ayurveda treatment have been found to be effective in congenital dyslipidaemia (9). According to ayurveda dyslipidaemia is correlated with medovruddhi (increase in body fat) and it is evident from past studies that Ayurveda therapies are beneficial in reducing total cholesterol (10). Additionally, naturopathy and yoga therapy were given in order to reduce the weight and thus facilitate the reduction of total cholesterol (7).

Various studies have been conducted to find out the effect of individual alternative therapies such as yoga, naturopathy, Ayurveda and lifestyle modification in metabolic disorder (6,7,11). However, combined effect of yoga, Ayurveda and Naturopathy is unexplored in case of dyslipidaemia. Therefore, the patient in the present case study was administered combined therapy of yoga, Ayurveda and naturopathy. The results are highly encouraging and showed substantial improvement in lipid profile of the patient. Additionally, the patient was put on a *Satvic* diet during his stay at the Institute. Interestingly, the patient did

not show any clinical symptoms of exhaustion or fatigue in spite of being on a strict diet.

The findings of present case showed significant reduction in cholesterol and triglyceride levels. However, there are certain limitations with respect to the current case study. Since patient was on strict diet, other parameters such as body composition, renal function, etc. must have shown significant changes. However, they were not analyzed in the present case study. Therefore, future research should include overall biochemical and physiological attributes to assess the efficacy of combined alternative therapies in dyslipidaemia. Further, studies with randomized controlled design are needed to validate the findings of this case study.

Conclusion

The case study concludes that combined alternative therapies of yoga, Ayurveda and naturopathy have helped in reduction of abnormal levels of lipids in short duration of three weeks.

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Authors' contribution

AV, SS, GD, RP: Study conception and design

SS, AV: Data collection

AV, GD, SS, RP: Analysis and interpretation of results

AV, SS, GD, RSB: Draft manuscript preparation

All authors reviewed the results and approved the final version of the manuscript

Informed consent

Written informed consent of the patient was obtained before conducting this case study.

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Conflict of interest

None.

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References

1. Hill MF, Bordon B. Dyslipidaemia. [Updated 2021 Feb 7]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK559182/>
2. Ballantyne CM, Grundy SM, Oberman A, Kreisberg RA, Havel RJ, Frost PH, Haffner SM. Dyslipidaemia: diagnostic and therapeutic perspectives. *J Clin Endocrinol Metab.* 2000;85(6):2089-112.
3. Wells GB, Dipiro J, Schwinghammer T, Hamilton, C. *Pharmacotherapy Handbook*, 7thedn, USA, TheMcgraw Hill Companies, 2007; pp. 98-108.
4. Nelson RH. Dyslipidaemia as a risk factor for cardiovascular disease. *Primary Care* 2013;40(1):195-211.
5. Shattat GF. A Review article on dyslipidaemia: Types, treatments and new drug targets. *Biomed Pharmacol J* 2014;7(2). <http://biomedpharmajournal.org/?p=3014>
6. Shantakumari N, Sequeira S, El deeb R. Effects of a yoga intervention on lipid profiles of diabetes patients with dyslipidaemia. *Indian Heart Journal* 2013;65(2):127-131. <https://doi.org/10.1016/j.ihj.2013.02.010>
7. Ningthoujam V, Sujatha KJ, Shetty P. A short term effect of integrative naturopathy and yoga intervention in patients with dyslipidaemia. *International Journal of Recent Scientific Research* 2019;10(9): 34869-34873.
8. Azami M, Hafezi Ahmadi MR, YektaKooshali MH, Qavam S. Effect of Yoga on Lipid Profile and C-reactive Protein in Women. *Int J Prev Med.* 2019;17(10):81. https://doi.org/10.4103/ijpvm.IJPVM_487_17
9. Jadhav SS. Ayurveda in the management of infant dyslipidaemia: A case report, *Journal of Ayurveda and Integrative Medicine* 2022; 13(2):100517, <https://doi.org/10.1016/j.jaim.2021.08.010>
10. Bhojar DD, Deshpande AA. Ayurvedic approach in management of dyslipidaemia: A case study. *Journal of Ayurvedic and Herbal Medicine* 2021;7(3):203-206.
11. Kumar G, Srivastava A, Sharma SK, Gupta YK. (2012). Safety and efficacy evaluation of Ayurvedic treatment (Arjuna powder and Arogyavardhini Vati) in dyslipidaemia patients: A pilot prospective cohort clinical study. *AYU* 2012;33(2):197-201.