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Antihyperlipidemic Activity of Ginger and Green Tea and Honey

Megha Salve*

Department of Pharmacy,university of Pratibhatai Pawar College Of Pharmacy, Ahmednagar,India

Abstract

The hyperlipidaemia is the condition in which extra fats are deposited on tissue of organs of body. The high lipid level in body shows the coronary artery disease and heart diseases. It also cause the hypertension and also affect on kidney. These conditions also treat by allopathic drug like statin and vitamin B3. The high level of lipid or fat are harmful to health is also cause death. The hyperlipidemia are cause due to improper diet, consumption of alcohol, icecream and oily foods, etc.

The green tea is antioxidant, anticancer, antibacterial, antimicrobial properties and also control the level of cholesterol. Green tea helps to treat the hyperlipidaemia. The various active components of green tea are theophylline, theobromine, caffeine, catechine and epigalepigallocatechine. The most active componet i.e epigallocatechine are responsible to treat the hyperlipidemia. The ginger is antioxidant, antiinflammatory, antifungal, antimicrobial and Antihyperlipidemic properties. The active component of gineger is gingerol help to treat the hyperlipidemia. The honey is the source of sugar. It act as antioxidant and also show Antihyperlipidemic property. It also helpful to increase the digestion.This research study shows the Antihyperlipidemic activity of green tea, ginger and honey. Both are helpful to reduce the lipid level of body and maintain the health of heart, and other body organs also.

Keywords: Antiinflammatory activity •Antimicrobial activity • Antioxidant activity • Hyperlipidemia

Introduction

The hyperlipidemia is the dangerous to our health. It is needed to maintain the lipid level in our body. Due to this it is needed to improve the drugs. Which are inexpensive and effective also. The hypolipidemic drugs are plays an important role to treat and maintain the lipid level in our body. The ginger, green tea and honey are shows various mechanism and control the cholesterol level [1].

The green tea contains catechin it decrease the absorption of cholesterol. Various research studies shows hat flavonoids are able to reduce hyperlipidemia. High flavonoid content of herbal plants like Camellia sinensis (CS) was selected and the present study was performed on the anti-hyperlipidemic activity of aqueous extract of leaves of CS . The ginger is also control and treat the hyperlipidemia. The effects of ethanolic ginger extract on rats was also studied, ginger extract showed an ability of lowering liver cholesterol and cholesterol oxidation in E0 rats. In this study, the hypolipaemic effect of ginger,green tea, and honey on cholesterol diet induced hyperlipidaemia in rats has been observed [2].

Materials and methods

Extraction of ginger

It was peeled, crushed and then extracted in methanol by cold percolation for 24 hours. The extract was recovered and then methanol was further added to the plant material and this extract was continued, the process was repeated about three times, the three extracts were pooled together and then concentrated under reduced pressure (22-26 mmHg) at (45°) C using rotary vapor until the oleoresin was obtained and the golden brawny viscous oleoresin was maintained in dark glass-container, at (–4°) C until use [3].

Extraction of green tea

250 g of dry powder of green tea was mixed with 1000 ml of ethanol 95° in 35 °C. The opening of extracting vessel was closed and the solution was kept at this temperature using a heater. After 24 h eliminate the solvent, and then 33.4 g of dry green tea remained [4].

***Address to correspondence:** Megha Salve, Department of Pharmacy,university of Pratibhatai Pawar College Of Pharmacy, Ahmednagar,India, Tel: 7620156366;E-mail : meghasalve77@gmail.com*

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Collection of honey

Honey is obtained from honeycomb. It is process in which honey is removed from honeycomb so that it was isolated in a pure liquid form [5].

Animals study

This study was performed on 60 male wistar rats weighing 200 – 250g. Rats were divided into five groups and each group having 12 animals (rats). The except group A, other four groups (B to E) gives the cholesterol diet (2%), and 2 gms cholesterol in 98 gms diet for 2 months to induce hyperlipidae-mia in rats which served as (control). Group B of rat received no therapy after producing hyperlipidaemia. Groups C received 300mg/kg, 250mg/kg, 20 mg/kg of body weight ginger, green tea, honey respectively and group D received 10 mg/kg body weight of simvastatin orally for 8 weeks after establishing hyperlipidaemia, while group E received combination of 300mg/kg, 250mg/kg,20 mg/kg and 10 mg/kg body weight of ginger, green tea,honey and simva-statin respectively orally for 8 weeks. Rats having normal lipid profile were included in this study.

Results

Thelis research study shows that the ginger, green tea and honey shows antihyperlipidemic activity. They are able to reduce the cholesterol level and control the lipid level. 8 They have ability to control the hyperlipidemia after regular consumption of this extract. It is safe and does not show ani side effects after consumption. Following readings are recorded during the experiments.

Group and lipid level	GroupA	Group B	Group C	Group D	Group E
Total cholesterol	90.83+10.40	172.92+25.02	204.20+30.05	235.20+72.80	192.80+38.50
HDL cholesterol	38.20+3.80	18.20+3.50	21.20+4.50	22.50+8.40	38.10+16.50
LDL cholesterol	34.10+10.20	142.40+25.40	172.80+19.40	192.20+70.02	141.10+38.20
VLDL cholesterol	16.90+ 8.50	12.50+ 4.80	9.40+ 3.50	16.40+ 9.50	12.80+ 1.60
Triglycerides	92.50+36.40	60.20+20.10	48.20+15.20	90.20+48.20	66.20+12.01

Table 1: The cholesterol controls after consumption of ginger, green tea and honey extract.

Discussion

This study was performed on rats. It is helful to study the effects of ginger, green tea and honey. The ginger, green tea and honey are helpful to reduce lipid level. This study shows that the extract of ginger, green tea and honey are lower the lipid lavel not same atorvastatin. The atorvastatin and this extract are show different effectiveness.The efficacy of ginger may be due to the presence of (ZT) compound that was isolated from ginger, which lowered plasma cholesterol levels in rats and mice by cholesterol biosynthesis blockage, these results are compatible with the results of previous research which applied ginger orally on high cholesterol fed rabbits to cause reduction in atherogenesis and lipid levels, by disruption of cholesterol absorption from gastrointestinal tract. Ginger's effect may also be due to the pharmacological action of ginger. Ginger increases the activity of hepatic cholesterol-7α-hydroxylase and which is the rate-limiting enzyme in the biosynthesis of bile acids and it stimulates the conversion of cholesterol to bile acids. The ginger antihypercholesterolemic effect may be due to the inhibition of cellular cholesterol synthesis, this may be due to the presence of niacin in ginger, niacin causes increased clearance of VLDL and lower TG levels. It also increase hepatic uptake of LDL, and inhibition of cholesterogenesis is also caused due to niacin. The Aqueous ginger infusion 5% yielded and it shows the same antioxidant activity toward lipid peroxidation as did the synthetic antioxidant butylhydroxyanizole and essential oils are responsible to this. Also this antioxidant activity may be due to the high polyphenols content and the presence of polyphenolic flavonoids prevents coronary artery disease by reducing plasma cholesterol levels or by inhibition LDL oxidation. The polyphenolic compounds are the main active antioxidant components shows the main principle which called gingerols and also some related phenolic ketone derivatives are shows the effects. The effect of ginger could also be due to the inhibition or scavenging radicals of rat body in different degrees, or by increasing the antioxidative defense mechanisms of liver cells.

Conclusion

This study shows that the ginger, green tea and honey are have antihyperlipidemic activity. They are able to control the lipid Or cholesterol level of the body. 10 The ginger have antioxidants property and it is helpful to reduce the lipid level. 11 Green tea are shows good metabolism of cholesterol and honey is also reduce the lipid and improve the digestion. The consumption of green tea ginger and honeylowers LDL cholesterol and TC, but not HDL cholesterol or triglycerides in both normal weight subjects and those who were overweight/obese.

References

1. Al-Noory, Ahmad Sameer, Amreen AN, and Shatha Hymoor. "Antihyperlipidemic effects of ginger extracts in alloxan-induced diabetes and propylthiouracil-induced hypothyroidism in (rats)." Pharmacognosy research 5(2013): 157.
2. Xu, Renfan,Yang K, Li S,and Dai M. "Effect of green tea consumption on blood lipids: a systematic review and meta-analysis of randomized controlled trials." Nutrition journal 19 (2020): 1-15.
3. Farsani, Masomeh Khosravi, Amraie E, Kavian P, and Keshvari M. "Effects of aqueous extract of alfalfa on hyperglycemia and dyslipidemia in alloxan-induced diabetic Wistar rats." Interventional Medicine and Applied Science 8, no. 3 (2016): 103-108.
4. Srividya, AR, SP Dhanabal, Yadav AK, and S M N Kumar, et al. Phytopreventive anti-hyperlipidemic activity of Curcuma zedoaria." Bulletin Pharm Res 2 (2012): 22-5.
5. Raoof, Gehan Fawzy Abdel, Mohamed KY, and Mohammed HM. "Phytochemical evaluation, anti-obesity and antihyperlipidemic effects of combined administration of green coffee, cinnamon and ginger." Plant 5 (2017): 80-84.

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