

To Study lipid profile in patients with chronic cough

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Type of Publication: Original Research Paper

Conflicts of Interest: Nil

Abstract

Background- An occasional cough is normal as it helps clear irritants and secretions from lungs and prevents infection.

Methods- This cross-sectional study was conducted on the out patients attending the Department of Respiratory. Therefore, a total of 50 chronic cough patients and 50 control were enrolled in the study.

Results- It was observed that cough patients showed higher serum levels of TC, TG, LDL and serum concentrations of HDL were decreased compared to controls.

Conclusion-The higher serum levels of TC, TG, LDL and serum concentrations of HDL were decreased compared to controls.

Keywords- Cough, Lipid Profile, Smoking.

Introduction

An occasional cough is normal as it helps clear irritants and secretions from lungs and prevents infection. A chronic cough is a cough that persists eight weeks or longer in adults and four weeks in children. A chronic cough is more than just an annoyance and it can interrupt sleep and leave you feeling exhausted. Severe cases of chronic cough can cause light headedness, vomiting and even rib fractures. Smoking and tobacco chewing is

leading risk factor for chronic cough. Chronic cough is generally associated with airway inflammation leading to respiratory tract epithelial cell and lung tissue damage^{1,2}.

Chronic cough patients have smoking as a major risk factor and because of this these patients may have altered lipid profile. Serum concentration of cholesterol and triglyceride is higher and HDL is lower in smoker than in non-smoker.

Materials and Methods

This cross-sectional study was conducted on the out patients attending the Department of Respiratory. Therefore, a total of 50 chronic cough patients and 50 control were enrolled in the study.

After the informed consent was obtained from all the participants. Subsequently, the chronic cough patients were segregated and diagnosed based on the clinical history.

After a 12-hour overnight fast, 5 ml fasting blood samples were collected from all the participants in the morning. The total cholesterol, HDL, and triglycerides were directly analyzed using the standard enzymatic techniques.

Results

Table .1. Comparison of biochemical parameters in case and controls.

Parameters	Case (n=30)	Control (n=30)	p-value
Mean Total cholesterol	182.50 ± 18.50	163.50± 14.20	<0.05
Mean LDL	116.20 ± 11.80	80.20± 9.80	<0.05
Mean HDL	40.20± 4.60	42.30± 6.20	>0.05
Mean Triglycerides	138.08± 12.50	134.20 ± 11.80	>0.05

It was observed that cough patients showed higher serum levels of TC, TG, LDL and serum concentrations of HDL were decreased compared to controls.

Discussion

Smoking being the major risk factor for chronic cough and also found in our study cases can cause changes in lipid profile. Smoking affects lipid profile in such a way that it increases LDL, cholesterol, VLDL, triglyceride and decreases HDL. Nicotine stimulates adrenal gland which releases adrenaline from the adrenal medulla leading to increased serum concentration of free fatty acids which stimulates hepatic synthesis and secretion of cholesterol as well as hepatic secretion of VLDL and in turn increased LDL formation. It has been described that nicotine contained in cigarette increases the circulatory pool of atherogenic LDL through accelerated transfer of lipids from HDL and impaired clearance of LDL from plasma compartment.^{3,4}

Our study showed non-significant values of triglyceride and HDL in chronic cough patients as compared to healthy control. We did not find any studies on lipid profile in chronic cough patients to compare and evaluate

our findings. If we consider smoking as major risk factor in chronic cough, these findings are not correlated with other studies.⁵ which reported dyslipidemia in smoking and needs further evaluation.

Conclusion

The higher serum levels of TC, TG, LDL and serum concentrations of HDL were decreased compared to controls.

References

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