Smoking and Obesity as Risk Factors among patients with Ischemic Heart Disease - a comparative study

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ABSTRACT

The aims and objectives of present study were to find out obesity and smoking as the risk factors of ischemic heart diseases. The results were similar as previous researchers fined in their studies. Serum Cholesterol,triglyceride, low density lipoproteins and High density lipoproteins levels of Group A, Group B and Group C were (145±14, 120±10, 112±20, 40±19), (225±11, 200±20, 202±20, 30±22), (175±14, 180±10, 184±20, 35±19) measured respectively. The positive results of heart scan in group B and group C as compared to group A were an indication of calcium deposition in the arties which may cause ischemic heart disease. Results were significant (<0.005).

Key words: Atherosclerosis, hyperglycaemia, plaque

INTRODUCTION

Ischemia is a syndrome in which supply of blood reduced[3]. The blood is supplied to the heart muscles by coronary arteries and there is no anyother alternative route for this. It has seen the narrowing of arteries occurred with plaque deposition and the flow ofblood become reduced or blocked therefore supply of blood to the heart muscle become reduced[2]. Most ischemic heart disease is caused by atherosclerosis. When the supply of blood reduced or stopped the muscles of heart become damaged this is called heart attack[4].

Researchers stated that overweight proportion have more diseases than normal one especially in women[5]. According to a report at present one out of ten there is an obese person in the world. Recent studies claimed that obesity is a weight more than 20% than the normal levels [9]. Obesity causes coronary heart disease which is a big complication of public health. Therefore obesity causes coronary heart disease and it is a leading reason of death in both sexes in the world. It has observed by considering different studies that obesity developed hypertension and hyperglycemia in individuals[6].

Epidemiological studies presented that the risk of ischemic heart disease is about 35% higher in smokers than non-smokers[7]. A study concluded that if a person smoke 20 cigarettes per day he will be on high risk of cardiac problems than the non- smoker. From several decades it had clear that cigarette smoking is closely associated with of ischemic heart diseases. Cardiac diseases are increasing very fastly in cigarette smoking individuals[1]. Both active and Passive smoking are correlated with the risk of coronary heart disease[8]. The Short-term exposures of 25 min to 10 hours result in increased platelet sensitivity and decreased the capacity of the heart to receive and process oxygen. In the biological

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system of a chronic cigarette smoker plaque will develop which creates adverse effects on blood cholesterol[10].

MATERIALS AND METHODS

The current study was conducted medical and cardiac departments of services hospital and Punjab institute of cardiology Lahore. In this study 200 individuals were selected and divided them into three different groups. In Group A all the individuals were control and they were 50 in number. In Group B 75 patients were obese and smokers with ischemic heart diseases. While in Group C, 75 cardiac patients were non- smokers with normal body weight. Lipidsprofile andheart scan tests were performed for these patients. Statistical SPSS model is used to elaborate P values.

RESULTS

Group A: Normal Individuals (n=50)

Parameters	Units	Mean ± SD	P value
Heart scan	Calcium deposition	Negative	0.00
Cholesterol	mg/dl	145±14	0.00
Triglycerides levels	mg/dl	120±10	0.00
LDL levels	mg/dl	112±20	0.00
HDL levels	mg/dl	40±19	0.00

<0.005

Group B: Obese and Smoker Individuals withIHD (n=75)

Parameters	Units	Mean± SD	P value
Heart scan	Calcium deposition	Positive	0.00
Cholesterol	mg/dl	225±11	0.00
Triglycerides levels	mg/dl	200±20	0.00
LDL levels	mg/dl	202±20	0.00
HDL levels	mg/dl	30±22	0.00

<0.005

Group C: Non obese and non-smoking individuals with IHD (n=75)

Parameters	Units	Mean± SD	P value
Heart scan	Calcium deposition	Positive	0.00
Cholesterol	mg/dl	175±14	0.00
Triglycerides levels	mg/dl	180±10	0.00
LDL levels	mg/dl	184±20	0.00
HDL levels	mg/dl	35±19	0.00

<0.005

Results were significant (<0.005) and Serum Cholesterol,triglyceride, low density lipoproteins and High density lipoproteins levels of Group A, Group B and Group C were (145±14, 120±10, 112±20, 40±19), (225±11, 200±20, 202±20, 30±22), (175±14, 180±10, 184±20, 35±19)respectively. The positive results of heart scan in group B and group C as compared to group A were an indication of calcium deposition in the arties which may cause ischemic heart disease.

DISCUSSION

Ganesh *et al.* (2013) was stated atherosclerosis is developed because of fate accumulation in the blood vessels. McGill HC*et al.*, 2008 described in their study that ischemic heart disease both caused by depositing of both lipids and calcium in the arties. Our study found that the highest levels of cholesterol , triglycerides, LDL and HDL were in obese and smoking individuals how has ischemic cardiac problems as compared to the non- smokers and normal body weights. A study by Mendis *et al* (2011) was concluded the same findings and suggested to avoid smoking and control body weight [2]. The results of this study was significant (<0.005) showing a remarkable changes in the levels of group B and group C as compared to group A.

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