

Assessment of Presence of Cardiovascular Disease in Relation to Smoking

Rajiv Arora¹

¹Associate Professor & Chief Cardiologist, Department of Cardiology & ICCU, Govt. Medical College/ Guru Nanak Dev Hospital & Allied Hospitals Amritsar (Punjab) 143001.

Abstract

Background: Smoking is a major risk factor for the development and progression of cardiovascular diseases. Thus, the present study investigates presence of cardiovascular disease in relation to smoking in people aged 45-50 years. **Subjects and Methods:** This cohort study was conducted among 40 people of age 45-50 years over the period of 6 months. All relevant clinical history was taken before the commencement of the study. Statistical analysis was done by using SPSS, version 15 (SPSS, Inc., Chicago, IL) and $p < 0.05$ was considered statistically significant. **Results:** In our study total participants were 40 in which 27 were male and 13 were females. In our study 18 men were recent smoker and 9 were ex-smoker. In females 8 were recent smoker whereas 5 were ex-smoker. 13 recent and 5 ex-smoker men had cardiovascular disease whereas 7 recent and 5 ex-smoker women had cardiovascular disease. **Conclusion:** The results of this study reinforce that smoking is a significant factor in causation of cardiovascular disease. Thus, we have to make strategies for smoking cessation programs in the primary care setting.

Keywords: Smoking, Cardiovascular Diseases, Smoking Cessation.

Corresponding Author: Dr. Rajiv Arora, Associate Professor & Chief Cardiologist, Department of Cardiology & ICCU, Govt. Medical College/ Guru Nanak Dev Hospital & Allied Hospitals Amritsar (Punjab) 143001.

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Introduction

Tobacco is the only legally available consumer product which kills up to one in every two users when used as intended.^[1] Smoking kills over 650,000 people in the European Union every year.^[2] In addition to the role of smoking in cancer initiation and promotion, cigarette smoking accelerates atherogenic cardiovascular disease in both a dose- and a duration-dependent manner through several concurrent pathways. Smoking incites an immunologic response to vascular injury, described as oxidative stress leading to lipid peroxidation, endothelial cell dysfunction, and foam cell proliferation in the tunica media.^[3,4] Smoking is more common among men and in lower socioeconomic classes, appearing concomitantly with other harmful health behaviour.^[5] Men also have a two to five times higher risk of Cardiovascular disease.^[6] Thus, the present study was conducted to investigate presence of cardiovascular disease in relation to smoking in people aged 45-50 years.

Subjects and Methods

This cohort study was conducted among 40 people of age 45-50 years over the period of 6 months. Ethical considerations were taken. Written informed consent was taken from the participants. All relevant clinical history was taken before the commencement of the study. Statistical

analysis was done by using SPSS, version 15 (SPSS, Inc., Chicago, IL) and $p < 0.05$ was considered statistically significant.

Results

Table 1: Distribution of gender who were smoker

Gender	N(%)	p-value
Male	27(67.5%)	<0.05
Female	13(32.5%)	
Total	40(100%)	

Table 2: Distribution of smoking history

Smoking history	Male	Female
Recent Smoker	18	8
Ex-smoker	9	5

Table 3: Presence of cardiovascular disease in smokers.

Presence of cardiovascular disease	male		Female	
	Recent smoker	Ex-smoker	Recent smoker	Ex-smoker
Yes	13	5	7	5
No	5	4	2	0

In our study total participants were 40 in which 27 were male and 13 were females. [Table 2] show smoking history whether the smoker is recent or he/ she was a ex-smoker. In our study 18 men were recent smoker and 9 were ex-

smoker. In females 8 were recent smoker whereas 5 were ex-smoker. [Table 3] shows the presence of cardiovascular disease. In the present study 13 recent and 5 ex-smoker men had cardiovascular disease whereas 7 recent and 5 ex-smoker women had cardiovascular disease.

Discussion

The mechanisms of underlying cigarette smoke-induced atherosclerosis, arterial thrombosis and their clinical manifestations as cardiovascular disease can be divided into several systemic pathways. First, reactive oxygen species induce cardiac remodelling, seen as left ventricular hypertrophy and atrial fibrosis, which increase the risk of stroke.^[7] Second, nicotine-stimulated release of adrenal medulla hormones modifies cardiac output by increasing heart rate, ventricular contractility and blood pressure, which might lead to cardiac ischaemia.^[8] Third, compounds in cigarette smoke expose smokers to myocardial ischaemia by causing deficient vasomotor functions, which is seen as thickening of the arterial wall and intima media, reduced ability to expand and contract vessels, as well as increased arterial stenosis.^[9,10] Thus, the present study was conducted to investigate presence of cardiovascular disease in relation to smoking in people aged 45-50 years. In our study total participants were 40 in which 27 were male and 13 were females. 18 men were recent smoker and 9 were ex-smoker. In females 8 were recent smoker whereas 5 were ex-smoker. 13 recent and 5 ex-smoker men had cardiovascular disease whereas 7 recent and 5 ex-smoker women had cardiovascular disease.

Keto J et al concluded that the effect of past or present smoking on individual cardiovascular risk parameters such as blood pressure and cholesterol seems to be of clinically minor significance in people aged 46 years. In other words, smoking seems to be above all an independent risk factor for CVD in the working-age population. Quitting smoking in working age may thus reduce calculated CVD risk nearly to the same level with people who have never smoked.^[11]

Mallaina P et al by the the prediction models demonstrated a high CV risk attributable to smoking. For instance, the SCORE model demonstrated that this study population of smokers compared to non-smokers.^[12]

A study by Bakhru A et al shows that inflammatory markers may be more accurate indicators of atherosclerotic disease. The results suggest that the inflammatory component of cardiovascular disease resulting from smoking is reversible

with reduced tobacco exposure and smoking cessation.

Conclusion

The results of this study reinforce that smoking is a significant factor in causation of cardiovascular disease. Thus, we have to make strategies for smoking cessation programs in the primary care setting.

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