ORIGINAL RESEARCH

To assess the outcomes of smoking cessation in post-ischemic heart diseases

Jaikirat Singh Gugnani, Harkamalpreet Kaur, Abhishek

Govt. Medical College, Amritsar, Punjab, India

Correspondence:
Jaikirat Singh Gugnani

ABSTRACT
Background: To assess the outcomes of smoking cessation in post-ischemic heart diseases.
Materials & methods: 60 smokers at the time of the first episode of ischemic heart diseases were enrolled. All the subjects belong to the age group of 40 to 60 years. Complete details of all the patients were obtained. A clinical examination of all the patients was carried out. Follow up was done at regular intervals. Risk evaluation was done at all intervals. A correlation between these was done with smoking cessation habits. All the results were recorded and analyzed.
Results: Out of 60 patients, 41.67% of the patients quit smoking while the remaining 58.33% of the patients continued smoking. Out of 25 patients with smoking cessation, mortality occurred in 3 patients. Out of 35 patients who continued smoking, mortality occurred in 15 patients. The survival rate was higher in smoking cessation cases.
Conclusion: Smoking cessation helps to improve outcomes among patients with post-ischemic heart diseases.
Keywords: Smoking, Cessation, Heart

INTRODUCTION
Heart failure (HF) is a complex syndrome responsible for high rates of death and hospitalization among the general population worldwide. One of the most frequent causes of HF is ischemic heart disease (IHD), which leads to the loss of myocardial tissue and contractile force. Coronary artery disease (CAD) leads to reduction in myocardial oxygen supply, which causes an impairment of myocardial contraction and relaxation.[1,2]
Angina usually occurs in patients with CHD, but can also occur in individuals with valvular disease, hypertrophic cardiomyopathy, and uncontrolled hypertension. Infrequently, patients with normal coronary arteries may experience angina related to coronary spasm or endothelial dysfunction.[3,4]
Smoking is a recognized risk factor for ASCVD and determines 20% of CVD deaths in the United States, therefore smoking cessation is strongly recommended to reduce the CVD burden. But the time course of cardiovascular risk reduction following smoking cessation has not been defined, when we compare smokers to never smokers. Many cardiovascular risk calculators do not make difference between people who smoked for some years of their life and people who never smoked.[5,6] Hence the present study was conducted to assess the outcomes of smoking cessation in post-ischemic heart diseases.

MATERIALS & METHODS
The present study was conducted to assess the outcomes of smoking cessation in post-ischemic heart diseases. 60 smokers at the time of the first episode of ischemic heart disease were enrolled. All the subjects belong to the age group of 40 to 60 years. Complete details of all the patients were obtained. A clinical examination of all the patients was carried out.

Follow-up was done at regular intervals. Risk evaluation was done at all intervals. A correlation between these was done with smoking cessation habits. All the results were recorded and analyzed. Statistical analysis was done using SPSS software.

RESULTS
The mean age of the patients was 51.3 years. The majority proportion of the patients were males. Out of 60 patients, 41.67% patients quit smoking while the remaining 58.33% patients continued smoking. Out of 25 patients with smoking cessation, mortality occurred in 3 patients. Out of 35 patients who continued smoking, mortality occurred in 15 patients. The survival rate was higher in smoking cessation cases.

Table 1: Distribution of patients according to smoking habit

Smoking habit	Number	Percentage
Smoking cessation	25	41.67
Continued smoking	35	58.33
Total	60	100

Table 2: Outcome

Smoking habit	Outcome after 1 year	
	Death	Survived
Smoking cessation	3	22
Continued smoking	15	20
p- value	0.001 (significant)	

DISCUSSION
Cigarette smoking is associated with the development of coronary artery disease (CAD) and influences short and long-term outcomes of patients who smoke after diagnosis. Smoking cessation substantially reduces the risk of total coronary heart disease mortality and can reduce the need for revascularization procedures. The single most common CAD risk factor among patients hospitalized for initial myocardial infarction is hypertension (44%), followed by smoking (23%).[7-9] Hence the present study was conducted to assess the outcomes of smoking cessation in post- ischemic heart diseases.

The mean age of the patients was 51.3 years. The majority proportion of the patients were males. Out of 60 patients, 41.67% patients quit smoking while the remaining 58.33% patients continued smoking. Lovatt S et al searched MEDLINE and EMBASE for studies that evaluated smoking cessation after ACS. The pooled rate of smoking cessation across included studies was performed. Random effects meta-analysis for different variables and their association with smoking cessation was conducted. A total of 39 studies with 11,228 patients were included in this review. The pooled rate of smoking cessation following ACS across 38 studies was 45.0%. Factors associated with a greater likelihood of smoking cessation were attendance at cardiac rehabilitation (OR 1.90 95% CI 1.44-2.51), married/not alone (OR 1.68 95% CI 1.32-2.13), intention/attempt to quit smoking (OR 1.27 95% CI 1.11-1.46), diabetes mellitus (OR 1.24 95% CI 1.03-1.51) and hospitalized duration (OR 1.09 95% CI 1.02-1.15). Variables associated with a lower likelihood of smoking cessation were depression (OR 0.57 95% CI 0.43-0.75), chronic obstructive pulmonary disease/lung disease (OR 0.73 95% CI 0.57-0.93), previous admission with acute myocardial infarction/cardiac admission (OR 0.61 95% CI 0.47-0.80), cerebrovascular disease/transient ischemic attack (OR 0.42 95% CI 0.30-0.58) and unemployment (OR 0.37 95% CI 0.17-0.80).[10]

Out of 25 patients with smoking cessation, mortality occurred in 3 patients. Out of 35 patients who continued smoking, mortality occurred in 15 patients. The survival rate was higher in

smoking cessation cases. Riley H asked current smokers hospitalized for an acute cardiac event to prioritize their health behavior priorities, and inquired about their attitude toward SC therapies. Of the 105 patients approached, 81 (77%) completed the survey. Of these, 72.5% ranked SC as their greatest health change priority, surpassing all other behavior changes, including: taking medications, attending cardiac rehabilitation (CR), dieting, losing weight, and attending doctor appointments. Patients felt that smoking cessation management (44%), CR (41%), and starting exercise (35%) would increase their likelihood of SC. While most patients agreed that smoking was harmful, 16% strongly disagreed that smoking was related to their hospitalization. At discharge, medication was prescribed to ~32% of patients, with equal frequency among patients who reported interest and those who reported no interest in using medications. The majority of hospitalized smokers with cardiac disease want to quit smoking, desire help in doing so, and overwhelmingly rate cessation as their highest health behavior priority, although some believe smoking is unrelated to their disease.[11]

CONCLUSION
Smoking cessation helps to improve outcomes among patients with post-ischemic heart diseases.

REFERENCES
1. Chaudhry M.A. Heart Failure. Curr. Hypertens Rev. 2019;15:7.
2. Gould K.L., Lipscomb K. Effects of coronary stenoses on coronary flow reserve and resistance. Am. J. Cardiol. 1974;34:48–55.
3. Severino P., D'Amato A., Netti L., Pucci M., De Marchis M., Palmirotta R., Volterrani M., Mancone M., Fedele F. Diabetes Mellitus and Ischemic Heart Disease: The Role of Ion Channels. Int. J. Mol. Sci. 2018;19:802.
4. 19. Boudreaux ED, Bock B, O'Hea E. When an event sparks behavior change: an introduction to the sentinel event method of dynamic model building and its application to emergency medicine. Acad Emerg Med. 2012;19(3):329-335.
5. Rigotti NA, Clair C, Munafo MR, Stead LF. Interventions for smoking cessation in hospitalized patients (review). Cochrane Collab. 2012;5:CD001837.
6. McNeill A. Harm reduction. BMJ. 2004;328:885–7.
7. Tremblay GJ, Drouin D, Parker J, et al. The Canadian Cardiovascular Society and knowledge translation: Turning best evidence into best practice. Can J Cardiol. 2004;20:1195–8.
8. Thomas D, Abramson MJ, Bonevski B, et al. Quitting experiences and preferences for future quit attempt: a study among inpatient smokers. BMJ Open. 2015;5:1-9.
9. Eisenberg MJ, Windle SB, Roy N, et al. Varenicline for smoking cessation in hospitalized patients with acute coronary syndrome. Circulation. 2015;133:21-30.
10. Lovatt S, Wong CW, Holroyd E, Butler R, Phan T, Patwala A, Loke YK, Mallen CD, Kwok CS. Smoking cessation after acute coronary syndrome: A systematic review and meta-analysis. Int J Clin Pract. 2021 Dec;75(12):e14894.
11. Riley H, Ainani N, Turk A, Headley S, Szalai H, Stefan M, Lindenauer PK, Pack QR. Smoking cessation after hospitalization for myocardial infarction or cardiac surgery: Assessing patient interest, confidence, and physician prescribing practices. Clin Cardiol. 2019 Dec;42(12):1189-1194.