Libyan International Medical University

Faculty of Basic Medical Science

Effect of Smoking on Angiograph Finding in Patient with Coronary Artery Diseases

Submitted by, Nourfan G. Eltarhuni, Student, Faculty of Basic Medical Science, Libyan International Medical University.

Supervisor: Dr.Ghanem Eltwaty, Tutor, Faculty of Basic Medical Science, Libyan International Medical University.

Date of Submission: 14/4/2018.

Report submitted fulfil the requirements of third year of Basic Medical Science

Abstract

There were conflicting results regarding clinical studies of effect of smoking on the coronary angiographic findings, the aim of theses study was to study the effect of on angiographic results in patients with history of coronary artery disease submitted to routine coronary angiography.

The U.S. Department of Health and Human Services estimates that as many as 30% of all coronary heart disease deaths may be attributed to cigarette smoking Although smoking increases both the risk of developing coronary disease and the risk of coronary events in patients with known coronary atherosclerosis, the effect of smoking on the evolution of coronary atherosclerosis as assessed by serial angiography is poorly defined.[1]

Introduction

Smoking is the single most important risk factor for coronary artery disease and the smoking has a particularly large impact in the developing world and annually accounts for 1.17 million deaths worldwide. Even among nonsmokers, inhaled smoke, whether from passive exposure or from cigar or pipe consumption, increases coronary risk.[2]

Discussion

According the ACUITY (Acute Catheterization and Urgent Intervention Triage Strategy) trial demonstrated a clear and important impact of smoking on mortality and development of Coronary artery disease in patients with NSTE-ACS, 13,819 patients (29.1% smokers) with moderate- to high-risk NSTE-ACS (unstable angina and NSTEMI) underwent angiography and Smokers were identified as patients who reported having smoked cigarettes within 30 days of randomization and comparison between smoking and non smoking was done.

Smokers were on average a decade younger at presentation more commonly men, and compared with nonsmokers, smokers also had fewer comorbidities: they less commonly had diabetes, hypertension, hyperlipidemia, anemia, renal insufficiency previous MI, and previous coronary intervention, while by angiographic comparison of smokers and nonsmokers were largely comparable in terms of the number of vessels with CAD the extent of disease per vessel, TIMI flow, and the presence of thrombi, Smokers more commonly had low TIMI flow low percentage for thrombus present and distal emobilization even.[2]

This study was based on previous study shows that Smoking accelerates coronary progression and new lesion formation as assessed by serial quantitative coronary arteriography, Coronary arteriography was repeated along 2 years in 72 smokers and their 557 lesions were measured with an automated quantitative system, along with 1752 lesions in 227 nonsmokers. [1]

Another study done on 393 Iraq patient in 2016 on with history of coronary disease {angina pectoris=202, NSTEMI=105, STEMI=86}submitted to coronary angiography in cardiology centre divided into two major groups: (198 patients) smokers group and (195 patients) non smokers group who had never smoked cigarettes or abandoned smoking more than 5 years and comparison had been done between two groups in the number of diseased coronary arteries, distribution of obstructive lesion and morphological severity compared between the distribution of occlusive lesion in the 4 major coronary arteries between smoker and non smoker groups, reported that the RCA (right coronary artery) and LMS (left main stem) 58% & 57% were more likely to be diseased in smoking group rather than non smoker, and the prevalence of two vessel disease (63% Vs 37%) and to lesser extent the three vessel disease pattern (53% Vs 47%) was more common in smoking group compared to non smoking group.

On the other hand, no significant association was found between smoking and morphological severity of coronary artery disease regarding Single lesion (44.7% Vs 55.3% in non smoking), Multiple lesion (45% Vs 55% in non smoking) and Total cut (46% VS 54% in non smoking).[3]

Conclusion

Smoking is important risk factor for coronary artery disease and associated with more two vessel disease and with involvement of right coronary artery than non smoking patients but without significant statistical association with coronary artery lesion morphological severity.[4,5]

There were conflicting results regarding clinical studies of effect of smoking on the coronary angiographic findings as we discussed earlier, some studies showed no significant association between smoking habits and coronary artery disease in patients undergoing routine while coronary angiography other studies in favor of significant association between cigarette smoking and coronary artery disease pattern.[6,7]

References

1. Paul M. Ridker Peter Libby. Braunwald Heart Diseases a text book of Cardiovascular Medicine 8th ed. Saunders; 2008.

2. Gehani AA et al. Myocardial infarction with normal coronary angiography compared with severe coronary artery disease without myocardial infarction; 2010.

3. Dr.Hussein A. Fakhir Nafakhi, Effect of smoking on angiographic findings in Iraqi patients with coronary artery disease; 2016.

4. Yonekura S, Watanabe N, Caifrey JL, Gaugl JF, Downey HE Angiograph fining in CAD right coronary circulation; 2014.

5. Gandhi P, Bustani R, Madhuvrata P, Farrell T. Introduction of smoking in CAD; 2012.

6. Kirpichnikov D, Sowers JR, Macferlarne SL. Smoking as a risk factor. International Endocr; 2016.

7. Singh AK, R.Gatish, CAD pathology . India, Journal of science; 2015.

.