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Title:

Do cardiometabolic risk factors relative risks differ for the occurrence of ischemic heart disease and stroke?

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ABSTRACT

Background: The risk factors of ischemic heart disease (IHD) and stroke impact differently on the occurrence of these diseases with regard to different populations.
Objective: To study the difference of the impact of different cardiovascular (CVD) risk factors on the incidence of IHD and stroke in an Iranian adult population.
Patients and Methods: Isfahan Cohort Study (ICS) is a longitudinal study that followed 6323 subjects aged over 35 years old with no history of CVD since 2001.Out of the original sample, only 5431 participants were contacted and followed up until 2011. The End points were the occurrence of IHD (defined as fatal and non-fatal myocardial infarction, unstable angina and sudden cardiac death) and stroke. After 10 years of follow up, 564 new cases of IHD and 141 new cases of stroke were detected. The relative risk (RR) of cardiometabolic risk factors such as hypertension, diabetes, hypercholesterolemia, hypertriglyceridemia, high LDL cholesterol (LDL-C), low HDL cholesterol, current smoking, obesity, high waist to hip ratio, family history of CVD and metabolic syndrome were compared between IHD and stroke patients. Ratio of relative risks (RRR) was calculated for comparing two RR and estimating adjusted RRR was calculated using generalized linear regression with a log link and binomial distribution.
Results: The RR of the occurrence of IHD and stroke in diabetic patients was 1.94 and 3.26 respectively and the difference was statistically different (p= 0.016), high LDL-C RR was significantly higher for IHD than stroke (p=0.045) while all other risk factors showed similar RR for IHD and stroke with no significant difference in their RRR including hypertension. Diabetes and hypertension had the highest RR for IHD, and respectively, diabetes, metabolic syndrome and hypertension for stroke.
Conclusion: The impact of diabetes mellitus in stroke is more significant than IHD and the impact of high LDL-C is more significant in IHD than stroke, while other risk factors including hypertension has similar RR for IHD and stroke. Health care professionals need more training about the RR of these risk factors in Iranian society and health decision makers should consider it in their future policies.

Key words: Cardiovascular Diseases, risk factors, stroke, Myocardial Ischemia, Cohort Studies

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