Risk Factors for Acute Myocardial Infarction in Hamedan (North Western of Iran)

Ghorbani-Vahed M *, Ahmadi R, and Tavakoli P

Abstract—Acute myocardial infarction (AMI) is prevalent in north western of Iran particularly in Hamedan province and has serious consequences including re-infarction and death. Although the risk factors for AMI have been extensively studied in Western countries, they are less well documented in Iran. The main aim of this study was to investigate the risk factors for AMI in north western of Iran. To determine the risk factors for AMI in inhabitants of Hamedan province, we performed a retrospective study in patients with AMI through 2 recent years. Risk factors were assessed in 357 consecutive patients with a first AMI (age, 20-94 years old), who were admitted to one of the major institutes in Hamedan. 35% of cases were female and 65% of cases were male. Mean age in female patients was 59 years old and in male was 76.5 years old, indicating lower mean age in women than men (p<0.01). In 48% of patients with AMI the risk factors were indicated clearly including hypertension (56%), diabetes (11.6%), and hyperlipidemia (5.8%). Hypertension and current smoking (39.7%) was important risk factor for AMI in residents of Hamedan. Current smoking, hypertension and hyperlipidemia are associated with AMI in north western Iranian patients. The male to female ratio is roughly 2:1; however, AMI occurs at lower age in females compared with males.

Keywords—Acute myocardial infarction, Hamedan.

I. INTRODUCTION

Cardiovascular disease continues to remain the leading cause of death in the world. While myocardial damage is the predominant factor affecting prognosis in the early stages following MI, over the longer term risk factors are more important [1-4]. The proportional reduction in serious vascular events (non-fatal myocardial infarction, non-fatal stroke, or death from a vascular cause) was about one quarter in a wide range of high risk patients, irrespective of why the risk was high and irrespective of age, sex, blood pressure, or history of diabetes. predisposes to the development of other known risk factors for atherosclerosis such as hyperlipidemia and hypertension and is associated with obesity [5-8]. Also, It has been well established that patients with diabetes mellitus have a greater morbidity and mortality from cardio vascular disease than do nondiabetic patients [9-13]. Presence of psychosocial stressors is associated with increased risk of acute myocardial infarction, suggesting that approaches aimed at modifying these factors should be developed [14]. The main aim of this study was to elucidate, in the Hamedan, the effects of risk factors for acute myocardial infarction in Hamedan (North Western of Iran).

II. MATERIAL AND METHODS

To determine the risk factors for AMI in inhabitants of Hamedan province, we performed a retrospective study in patients with AMI through 2 recent years. Risk factors were assessed in 357 consecutive patients with a first AMI (age, 20-94 years old), who were admitted to one of the major institutes in Hamedan. All values are presented as mean±SEM. Statistical significance was evaluated by one-way analysis of variance (ANOVA) using SPSS 19. Significance was measured using Games- Howell significant test for the exact P values and significant differences are noted in the results. Differences with P<0.05 were considered significant.

III. RESULTS

The 35% of cases were female and 65% of cases were male. Mean age in female patients was 59 years old and in male was 76.5 years old, indicating lower mean age in women than men (p<0.01). In 48% of patients with AMI the risk factors were indicated clearly including hypertension (56%), diabetes (11.6%), and hyperlipidemia (5.8%). Hypertension and current smoking (39.7%) was important risk factor for AMI in residents of Hamedan (Figure I).

![Fig. 1 The risk factors for AMI in patients in Hamedan.](image)

IV. DISCUSSION

The results of current research show that Current smoking, hypertension and hyperlipidemia are associated with AMI in north western Iranian patients. In line with this finding, research suggests that interventions aimed at decreasing behavioral risk factors, lowering blood pressure, and modifying lipids could have a large impact on the improving the risks of acute myocardial infarction [15]. The reports also indicate that multiple cardiac risk factors are highly prevalent in AMI patients [16]. In agreement to our finding the studies also show that smoking is the most prevalent risk factor for
AMI [17]. There are also reports indicating that smoking, hyperlipidemia, and being overweight are associated with young AMI patients [18]. On the other hand, a study on risk factors for AMI in Asian women revealed that diabetes mellitus, hypertension and hyperlipidemia were prevalent in many young Asian women with AMI and the risk factors were different from those found in the Western population [19]. The research also show that in Western countries, metabolic syndrome as well as such classical risk factors as hypertension and smoking has been considered to be closely associated with the occurrence of acute myocardial infarction [20].

V. CONCLUSION

'Ve have shown that current smoking, hypertension and hyperlipidemia are associated with AMI in north western Iranian patients. The male to female ratio is roughly 2:1; however, AMI occurs at lower age in females compared with males.

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REFERENCES


