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**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.825742>Available online at: <http://www.iajps.com>**Research Article****COMPARISON OF CLINICAL PRESENTATION IN OLDER
AND YOUNGER PATIENTS WITH ACUTE MYOCARDIAL
INFARCTION****Hesam Gharooni¹, Manochehr Gharooni¹, Hamid Reza Zakeri¹, Nahid Hematyar¹,
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Branch, Tehran, Iran.³Young Researchers and Elite Club, Tehran Medical Sciences Branch, Islamic Azad
University, Tehran, Iran.**Abstract:**

Background: cardiovascular diseases are the most common causes of death. Studies show that the incidence of specific symptoms decreases with increasing age. The aim of this study is to identify Atypical symptoms of acute myocardial infarction.

Method:

In this cross-sectional study, patients admitted to the CCU in Tehran Amir Alam hospital were selected based on inclusion criteria during 2014 to 2016 and were classified according to age and symptoms of the disease; and information was classified and analyzed.

Results:

The rate of correlation between AMI symptoms and age had a significant difference value. Rate of Atypical symptoms among the elderly age group was 50.9%. The common Atypical symptoms in the elderly group were shortness of breath with a frequency of 24.1% and Atypical tachycardia with a frequency of 20.7%. Severe fatigue had a frequency of 17.2%, and cardiogenic shock was observed in 10.3% of the elderly people. Compared to other age groups, symptoms of yawning [3.4%] and cardiogenic shock [10.3%], hiccup in 6.9% of the elderly and severe fatigue [17.2%] were seen with the higher frequency in the elderly group compared to other age groups.

Conclusion:

According to the results of this study, there is significant difference between Typical and Atypical symptoms in AMI among different age groups; and the identification and paying attention to these symptoms in elderly patients improve the prognosis of treatment in.

Older Patients-Keywords: Atypical symptoms - AMI – age

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INTRODUCTION:

Vascular incidents cause 31% deaths in the world, which is estimated number of 17.5 million of people who died from Cardiovascular diseases [CVDs] in 2012 [1]. It is close to 40% in high-income countries and an average of 28% in low-income countries. Myocardial infarction is one of the most common diagnoses in hospitalized patients in industrialized countries such as the United States, that experience 650,000 new cases and 45,000 of acute myocardial infarction [AMI] patients every year. Identifying signs and clinical symptoms of AMI for diagnosis and treatment is very important and vital. Cardiac symptoms typically identified, include chest pain and symptoms of atrial fibrillation [tachycardia] as well as acute pulmonary edema and sometimes without any pain as in silent AMI [2]. Symptoms are various in different people with different age and sex distribution and even underlying medical conditions, including diabetes mellitus, high blood pressure, kidney failure, hyperlipidemia. Although the population of patients with atypical acute coronary syndrome [ACS] presentation is still not well characterized. Previous stroke, heart failure, chronic kidney disease [CKD] and chronic obstructive pulmonary disease [COPD] have been reported to be associated with acute myocardial ischemia without typical presentation [3].

The main problem in dealing with these symptoms is inattention groups. Lack of full awareness of these differences in many cases may contribute to delay in care seeking and in treatment initiation and even generally acute myocardial infarction detection, especially in the elderly people leading to loss of time for treatment and patient developing complications such as fatal arrhythmia after AMI [4,5].

Now as soon as typical signs and unusual symptoms are detected and aggravated with some activity or mental stress, AMI is suspected and EKG and laboratory evaluation of cardiac enzymes are required. However, in dealing with unusual symptoms include sudden shortness of breath, acute pulmonary edema, severe lethargy, yawning, timely no waking up, hiccup, intense hunger after a short time of eating, tachycardia without cause, falling in the bathroom or toilet that can be more seen in the elderly. There is a hesitation in suspicion to AMI and requesting for EKG and laboratory evaluation of cardiac enzymes. Given the aging population with increasing symptoms of myocardial infarction has shifted more to the development of atypical symptoms thus being more familiar with the signs and the differences, seems necessary.

The best solution to solve this problem is to identify the differences between symptoms of older, young and middle-aged people which may educate patients and clinicians for a more rapid identification and cure [6].

Studies have indicated the differences in the risk factors for heart disease, including HTN, HDL, DM, smoking, age and sex in the incidence of heart disease and their consequences. The aim of this study is Comparison of Clinical Presentation in Older and Younger Patients with Acute myocardial infarction. Therefore, in addition we designed this study to compare the common signs and AMI's unusual symptoms in the elderly, young and middle-aged groups.

MATERIALS AND METHODS:

In this analytical cross-sectional study, patients admitted to the CCU section of Amir Alam hospital in Tehran between 2014 to 2016 have been selected which AMI at them with ECG changes including ST segment elevation and measurements Troponin-I Twice have been proven. The sampling is done randomly. Inclusion criteria to the study include patients who consent to participate in the project and necessary tests and proving AMI in patients with the above criteria. Patient dissatisfaction and lack of complete tests and proving AMI in patients and death before filing out the questionnaires was the causes of leaving the study.

In this study, people into three groups of young people for women below 55 and men below 45 years old and middle – aged for women between, 55-65 and men between, 45-66 and elderly more than 65 are divided. Young age group based on Harrison's reference books, by definition of the history of myocardial infarction in young family people is considered and the rest of the divisions of the past studies have been used. [2]

Patients are divided into two categories of usual and unusual symptoms. Usual symptoms include chest pain, a visceral pain as heaviness and tightness, and sometimes a burning feeling and dull pain which is usually felt in the posterior area of the sternum or a pain radiating to the neck or teeth jaw, arms or shoulder, and sometimes without chest pain followed by a physical activity or psychological stress. Unusual symptoms include sudden shortness of breath, acute pulmonary edema, severe lethargy, yawning, lack of timely wake up, hiccup, extreme hunger a short time after eating, tachycardia, falling in the bathroom or toilet without any cause.

In this study, diabetes can be measured in fasting blood sugar twice time more than 126 mg / dl or

HgbA1c>6/5 mg / dl or symptoms of diabetes include polydipsia, frequent urination, along with glucose concentration 200 mg / dl or glucose 200< over an oral glucose tolerance test in two or hypoglycemic drugs is identified. Increasing blood pressure with measuring blood pressure in two times less than 140/90 mm Hg or taking blood pressure-lowering drugs were detected. Lipid disorders by measuring 150 < LDL and HDL<45 for men and 35 >HDL for women and 250<TG or taking lipid-lowering drugs were detected.

Smoking on the number of bags used per year was identified. Age of the patients was based on information and data contained in the file specified. The data collection form was completed. Statistical analysis using SPSS 20 and descriptive statistics, chi-square test was carried out [$\alpha= 0/05$]. Adherence to ethical principles of the Declaration of Helsinki, confidentiality of records, obtaining informed consent signed by the participants in this study was observed in the present study.

RESULTS:

In this study, 151 patients were evaluated which 108 were [71.5%] male and 43 [28.5%] were female. The average age of participants was in the range of 28-90 years old. Patients were divided into 3 age groups. According to the data in the reference book, 13 patients were young [8.6 %], 81 patients were middle-aged [53.6%] and 57 patients were elderly [37.5%]. The relationship of signs of AMI with age had significant difference in a way that the most Atypical sign existed in the elderly age, so 50.9 % of them had Atypic.

The most frequent atypical sign in elderly was shortness of breath with a frequency of 24.1% and in second place was unusual tachycardia with a frequency of 20.7%, respectively. The frequency of severe fatigue was 17.2% and cardiogenic shock was seen in 10.3% of elderly people. Compared to other age groups, the sign of yawning [3.4%], cardiogenic shock [10.3%], hiccup 6.9% and severe fatigue [17.2%] in the elderly group compared to other age groups were seen more frequently. In the elderly, diabetes mellitus [$p=.67$], HTN [$p=.33$], lipid disorders [$p=.52$], gender differences [$p=.37$], smoking [$p=.4$] has not any effect in occurrence of unusual AMI symptoms.

In the present study of 13 patients with AMI, 11 patient [84.6%] typical symptoms, 1 patient [7.7%] unusual symptoms and 1 patient [7.7%] had both symptoms.

Of 81 middle-aged with AMI, the number of with AMI, [74.1 %] 60 typical symptoms, 9 atypical symptoms [11.15] and 12 patient [14.8%] had both symptoms together.

The numbers of 55 patients [36.4%] were currently suffering from diabetes. The usual and unusual symptoms in people with diabetes did not differ according to age groups [$p=.173$] There was not any significant difference and Atypical symptoms in the AMI [$p=.76$].

The most frequent was unusual symptoms in the elderly [57.1%]. The only symptom dyspnea was observed in young diabetic patients. Symptom of pulmonary edema and tachycardia has been only for middle-aged and tachycardia unusual symptom, excessive sleep and fatigue have been seen more in the elderly than in the middle-aged. The numbers of 60 [39.7%] patient were with high blood pressure and received treatment. There was not any significant difference between different age groups and the type of unusual AMI symptoms in patients treated with high blood pressure [$P=0.49$]. There was not any significant difference between different age groups and the type of unusual AMI symptoms in patients treated with high blood pressure [$P=0.39$]. In the number of [21.9%] 33 patients with high blood pressure drugs were not used. There was not any significant difference between different age groups and the type of unusual AMI symptoms in patients without treatment with high blood pressure [$P=0.37$]. There was not any significant difference between different age groups and the type of unusual AMI symptoms in patients with high blood pressure without cure [$P=0.89$]. The number 76 patients [50.3 %] with lipid disorders were under medical treatment. There was not any significant difference between different age groups and usual and unusual symptom of AMI in patients with lipid disorders [$P=0.83$]. There was not any significant difference between different age groups and unusual symptom of AMI in patients with lipid disorders [$P=0.38$].

There were 18 patients [11.9%] with lipid disorders, however did not receive any medical treatment. There was not any significant difference between different age groups and usual and unusual symptom of AMI in patients with lipid disorders [$P=0.52$].

The number of 62 patients [41.1%] used smoking. There was not any significant difference between different age groups and usual and unusual symptom of AMI in patients with smoking behavior [$P=0.043$]. There was not any significant difference between different age groups and unusual symptom of AMI in patients with smoking behavior [$P=0.4$].

DISCUSSION:

According to increasing age of population studies are necessary in connection with unusual symptoms of AMI appear in elderly. Factors associated with

this disease at diagnosis and proper medical treatment is helpful [7-9].

The most frequent Atypical symptom was shortness of breath in our study. Our study is similar to other studies in this field. For example, Btieger [2004] [11], Corsini [2006] [12], Gregoratos [2001] [13] and Hwang [2006][14] stated the most unusual symptom associated with AMI in elderly with shortness of breath.

In our study, chest pain was more common in young that this part of the results is consistent with studies of Woon in [2006] [16] and Han in [2007] [15].

In our study, severe fatigue more frequently than other groups was seen in the elderly. Angerud studies in 2012 [17] and July 2006 [18] also confirmed this issue. In this type study, unusual symptoms in different age groups were not significantly different. This part of the study results with Mliner and colleagues [19] are aligned in 2001. In our study, diabetes has not any effect on AMI unusual symptoms. Hwang [14] and co-workers reported the same result and did not know diabetes as predictors of Atypical symptom in ACS. Although, Hasin et al in 2009 [20] showed that typical symptoms of diabetes mellitus in patients lead to less typical symptom in the AMI. Our study showed the effect of smoking on AMI symptoms in a way those typical symptoms was more in non-smokers. [P= 0.004 . 17.9% against 83.1%]. This study was in line with the Canto [21].

In our study, the presence of hyperlipidemia and hypertension with atypical symptoms showed no significant correlation; however, Pinto study in 2011 [22] showed unusual symptoms in the elderly in the presence of smoke and blood pressure and dyslipidemia up to 4 times is less. Smoking accelerates the oxidation of LDL cholesterol and damage to the coronary arteries. [23] Shiraishi [24] showed that smoking increases platelet aggregation and disrupting fibrinolytic activity and reducing coronary blood supply and artery spasm. These findings are consistent with current research. The results showed that chest pain in the elderly compared to young and middle age people is lower. In Nobahar study which is in line with the current study, complained of chest pain is inversely correlated with age [25]. However, in comparison of different clinical studies should consider the type of study, retrospective, and prospective, cohort and comparison ability of the study. Also, in some studies, chest pain was reported by the numerical scale.

In our study, hiccups were observed in older people more frequently than other groups. Kersypak [26] states that there are hiccups in patients with heart failure due to nerve stimulation. In this study,

severe fatigue in the elderly group is further observed that this part of the study results is agrees with Harrow et al [27]. They noted in their study that elderly experience symptom of fatigue many times. However, two recent studies without gender effects have been reported.

Considering the existing theories can be stated that chest pain stimulates visceral nerves which innervate the esophagus, blood vessels and visceral pleura innervation and this stimulation causes extensive symptoms without focusing on a particular area [28]. In this study, some risk factors such as coagulation disorders, high homocysteine and some inflammatory markers were not assessed. Due to the nature of study, the numbers of elderly, middle-aged and young were not coordinated and this was influential in statistical results. However, a diagnosis of AMI due to natural and pathobiologic changes in the elderly is more difficult and detects important signs and symptoms of AMI are essential. According to the results of this study, there is significant difference between Typical and Atypical signs in different age groups in AMI and identifying and considering these symptoms in elderly patients improves prognosis treatment in the elderly.

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