



Course of Myocardial Infarction in Young Women

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ABSTRACT

It has been shown that the course of myocardial infarction in women, especially after 40 years, is characterized by the severity of complications, such as heart ruptures, cardiogenic shock, asystole, recurrent ventricular fibrillation and EMD, which provide a large percentage of deaths. The lethality of women in the fifth decade of life is especially high, and at the age of 50 to 59 years, the highest incidence of repeated large-focal necrosis was noted, while small-focal myocardial infarctions, including repeated ones, were detected in patients aged 45 to 55 years. which is more common than in women under 60 years of age.

Keywords:

Myocardial infarction, complications, women, cardiogenic shock

According to epidemiological studies, the incidence of myocardial infarction (MI) in Uzbekistan continues to grow both among men and women [1,4, 5]. At the same time, a certain age dynamics of the frequency of MI is revealed. So, in the age group of 30-34 years, the incidence was 0.08 people per 1000 population, streets 35-39 years old - 0.76; at 40-49 years old - 2.13; at 50-59 - 5.81 and at 60-69 years - 17.1 [2, 3].

Gender is a very significant factor in the onset and course of MI. Men get sick much more often than women, especially in young and middle ages: in the period from 40 to 49 years - five times more often, in 50-64 years - 2-2.5 times, and after 65 years these differences are erased for due to the increase in acute myocardial

infarction among women in whom this disease is severe in the elderly and senile age, accompanied by frequent complications and high mortality [6]. According to American authors, the average age of onset of myocardial infarction in men is 67.1 ± 10.7 years, and in women it is 72.1 ± 10.6 years [9]. Although there are other data indicating a younger age of MI development in women - 65 ± 2.8 years [8]; according to these authors, mortality in the first 35 days in women is higher than that in men and amounts to 14.8% and 9.1%, respectively. Women are more likely than men to have recurrent MI (37% versus 27 %); especially in the first year after myocardial infarction and during this time, 39% of women and 31% of men die [7].

The relevance of the problem was determined by the purpose of the study, which is to study the features of the clinical course of MI in women of different ages.

The study involved 112 women aged 32 to 97 years with acute myocardial infarction admitted on the first or third day after the onset of the disease. Among them, 79 patients (24%) were younger than 60, and 33 (76%) were older than 60 years. This division is due to greater - differences in the pathogenesis and course of acute myocardial infarction (AMI) in women in the dynamics of reproductive function involution.

When analyzing the ECG recorded over time, primary MI, according to the WHO criteria, was diagnosed in 72 (72.9%) patients under 60 years of age and in 91 (61.1%) of the older age group (Table 1). Recurrent MI was detected in a smaller percentage of cases: in 27 (27.1%) patients younger and in 12 (38.9%) patients older than 60 years. Primary transmural MI was found almost 2.5 times less often in patients of the older age group (14.6% versus 39.2% in women younger than 60 years old; $p < 0.01$), while primary large-focal necrosis of the heart muscle in 1, 5 times more often detected in patients older than 60 years (27.1% vs. 18.3%; $p < 0.05$). MI without Q wave (small focal), both primary and recurrent, occurred with almost the same frequency in patients of both age groups.

The incidence of MI according to the depth of the lesion in women by decades is presented in Table. one.

Table 1
Complications of the acute period of myocardial infarction in women of different ages

Complications	Up to 50 years old	Over 60 years old
Acute left ventricular failure (Killip II, III)	11(11.1%)	48 (15.3%)*
Cardiogenic shock (Killip IV)	2 (2.3%)	17 (5.4%)*
Recurrent ventricular fibrillation	2(1.9%)	14 (4.5%)*
Paroxysmal ventricular tachycardia	-	6 (1.9%)
Ventricular extrasystole	25(25.6%)	55 (17.4%)
Supraventricular extrasystole	6 (5.9%)	44(14.1%)*
Paroxysmal atrial fibrillation	2 (1.9%)	42 (13.2%)*
Paroxysms of atrial flutter	-	5 (1.5%)
Paroxysmal supraventricular tachycardia	1 (1.1%)	-
incomplete atrioventricular blockade st.	1 (1.1%)	14 (4.6%)*
Complete transverse blockade	-	4 (2.3%)
Blockade of the legs of the bundle of His	6 (6.0%)	17 (5.4%)
Parietal pericarditis	1 (1.1%)	3 (1%)
Acute cerebrovascular accident	-	3 (1%)
Early postinfarction angina	13(12.3%)	63 (20.3%)*
Cardiac tamponade Ventricular septal rupture	-	11 (3.5%) 1 (0.5%)
Chronic heart failure	8 (8.1%)	83 (26.6%)*
Dressler's Postinfarction Syndrome	3 (3.1%)*	2 (0.7%)
Heart aneurysms	6 (5.9%)	34(11.4%)*

Asystole	-	3 (1%)
Recurrent myocardial infarction	2 (2.0%)	12 (3.8%)*
Pulmonary embolism	1 (1.1%)	3 (1%)
Electromechanical dissociation	-	5 (1.6%)

When studying the stationary stage of myocardial infarction in women in two age groups: under 60 and over 60, it turned out that complications occurred in the older age group in the acute and subacute periods of this disease (Table 3), which then led to death and almost never occurred in women under 60 years of age. This primarily concerns cardiac ruptures, both external (cardiac tamponade confirmed at autopsy in 3.5% of cases) and internal (rupture of the interventricular septum, which occurred in one woman-0.5%), as well as cardiogenic

shock encountered in 17 women (5.4%) of the older age group and only in two (2.3%) under 60 years of age. Hypovolemic cardiogenic shock, which developed in 15 (4.8%) women over 60 years of age against the background of transmural MI, was the cause of death, while two patients under 60 years of age had only a clinical manifestation of true cardiogenic shock, successfully resolved on the background of thrombolysis and intravenous infusions of the sympathomimetic amine - dopamine.

Table 2

The main causes of death of women of different ages with myocardial infarction

Causes of death	Up to 50 years old	Over 60 years old
Cardiogenic shock	-	15 (25.8%)
Cardiac tamponade	-	11 (19.1%)
Acute left ventricular failure	3 (5.1%)	8 (13.8%)*
Electromechanical dissociation	-	5 (8.8%)
Recurrent ventricular fibrillation	1 (1.7%)	4 (6.9%)**
Chronic heart failure	-	4 (6.9%)
Asystole	-	3 (5.1%)
cerebral edema	-	3 (5.1%)
Rupture of the interventricular septum	-	1 (1.7%)
Total	4 (7%)	54 (93%)**

Note. Reliability of differences between the groups : *- p < 0.01; **- p < 0.001.

Among the complications that led to the death of three patients of the older age group, asystole (in one percent of cases) and electromechanical dissociation (EMD) registered in five women (1.6%) of this age should be indicated. Both cardiac tamponade and asystole occurred in the acute period of

With regard to acute left ventricular failure (ALHF), fulminant alveolar pulmonary edema, refractory to drug therapy, claimed the lives of

infarction (5-6 days from the onset of the disease) during the period of the greatest myomalacia of the ventricles against the background of extensive transmural MI of the anterolateral wall of the left ventricle, including eight of them with repeated infarction.

eight more patients (2.6%) over 60 years of age and three women (1%) under 60 years of age.

The development of chronic congestive heart failure in the subacute period of MI is also

noteworthy, which is more common in women of the older age group (26.6% vs. MI (36 patients, or 11.5%) versus five women younger than 60 years (5.4%; $p < 0.01$), as well as with primary recurrent course and circular non-crosis of the heart muscle - 12 (3.8%) versus 2 (2%), and at the stationary stage, four women (8.6%) over 60 years of age died from the progression of cardiac decompensation, while no deaths from this complication were found in young and middle-aged women.

As for cardiac arrhythmias, it should be noted among them recurrent ventricular fibrillation, which occurs twice as often in patients of the older age group (4.5% vs. 1.9% in women under 60; $p < 0.01$), which also caused the death of four older women and only one middle-aged patient. Significantly more often in the acute period of MI in women of the older age group, paroxysmal atrial fibrillation was noted (in 42 patients; 13.2%) compared with two women (1.9%; $p < 0.001$) of young and middle age (Table 1).

Disturbances in the conduction of impulses in the atrioventricular junction also attract attention (from incomplete atrioventricular blockade of the stage to a complete transverse block), determined mainly in patients over 60 years old against the background of myocardial infarction, mainly of the lower wall of the left ventricle (in 18 patients; 6.9%), whereas in middle age, complete atrioventricular block was detected in only one patient (1.1%; $p < 0.01$). And, finally, it should be noted that early postinfarction angina (RPIS) was also more often detected in patients of the older age group (in 63 women; 20.3%) versus 13 patients (12.3%; $p < 0.01$). bed 60 years old.

Analyzing the obtained results, it is necessary to summarize that the course of MI in older women differs in the severity of complications of this disease, providing a significantly higher percentage of deaths (out of 58 dead women - 54 of the older age group; 93%; $p < 0.001$). The explanation for this fact lies in the fact that by the time of the development of AMI in patients older than 60 years, the myocardium turned out to be less "prosperous" compared to the heart muscle in patients younger than 60 years due to the presence in elderly and old women of a pronounced diffuse (for many years) years, the

development of MI was preceded by stable exertional angina) cardiosclerosis and especially postinfarction cardiosclerosis as a result of previous myocardial infarctions (Table 2). Thus, in women older than 60 years, myocardial infarction was repeated in 38.9% of cases versus 27.1% in patients younger than 60 years.

The lethality of women aged 70 to 79 years was especially high (Table 2); in the same decade, the highest incidence of MI was found (38.7% of all MI), and the highest percentage in this decade of life of the incidence of recurrent transmural MI, reaching 51.5% ($p < 0.001$), attracts attention, as well as repeated and primary large-focal MI, detected in 48.7% and 46.2% of cases, respectively.

Also noteworthy is the high frequency of primary and repeated small-focal MI (33.1% and 36.3%, respectively), and it should be noted that small-focal necrosis, including repeated (second, third, fourth, etc.) .d.), are also detected in patients aged 80 to 89 years (in 14.3% of cases), which is two times less common than in women aged 60 to 69 years (in 31.2% of cases) and 70-79 years old (36.3% of cases), but more often than in women under 60 years old (10.4% aged 50 to 59 years).

Findings. The course of myocardial infarction in women, especially after 60 years, is characterized by the severity of complications, such as heart ruptures, cardiogenic shock, asystole and EMD, which provide a large percentage of deaths.

Mortality is especially high in women aged 70 to 79 years, and in this decade of life, the highest incidence of recurrent transmural and large-focal MI was noted, while small-focal necrosis, including repeated ones, was detected in patients aged 80 to 89 years, which is twice as rare as in women from 60 to 69 years old and from 70 to 79 years old, but more often than in women under 60 years old.

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