ASSESSMENT OF ATRIAL FIBRILLATION FREQUENCY IN OCTOGENERIAN PATIENTS WITH DIFFERENT GENDER HAVING ACUTE CORONARY SYNDROME IN INTENSIVE CARE UNIT

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Aim: *Atrial fibrillation is the most common cardiac arrhythmia and increases the risk of stroke, especially in the elderly patients. In this paper, we searched a new atrial fibrillation during intensive medical therapy and monitoring for the acute coronary syndrome in male and female octogenarian patients at intensive care unit.*
Methods: *We studied of 25 octogenarians (mean age: 83.5 ± 3.1 years, 15 female), consecutive patients who underwent intensive medical therapy such as heparin, nitrat and fibrinolytic infusion because of acute coronary syndrome at intensive care unit. All patient underwent cardiac monitorization such as central venous cathaterization and respiratory monitorization.*
Results: *Baseline characteristics such as hypertension and hyperlipidemia, hematologic and biochemical values including complete blood count, glucose, urea, creatinin and lipid profiles between male and female were similar ($p>0.05$). A new developing atrial fibrillation were significantly increased in female octogenerian patients (n=6) as compared with male octogenerian patients (n=1) ($p<0.05$). The duration of stay in intensive care unit was 3.3 ± 2.1 day. The intensive medical therapy success rate was 96%. There was one mortality (female patient with atrial fibrillation) in intensive care unit. The causes of death included myocardial infarction complicating ventricular fibrillation.*
Conclusions: *The frequency of new developing atrial fibrillation in intensive care unit was significantly increased in female octogenerian patients as compared with male. Atrial fibrillation may be associated with worse outcomes during acute coronary syndrome in female octogenarian patients in intensive care unit.*
Key words: *Octogenarian, acute coronary syndrome, atrial fibrillation, intensive care unit*

INTRODUCTION

Atrial fibrillation is the most common arrhythmia which complicates the course of acute coronary syndrome. Some studies have shown that new onset of atrial fibrillation is associated with increased mortality in patients with acute coronary syndrome (1,2). Not only does atrial fibrillation cause increased morbidity and mortality among affected individuals, it also adds a significant burden to healthcare costs. The prevalence of atrial fibrillation increases with age, as do the associated risks such as thromboembolism, and strokes in elderly people (3,4). In this study, we searched a new atrial fibrillation during intensive medical therapy and monitoring for the acute coronary syndrome in male and female octogenarian patients at intensive care unit.

METHOD

Study Population

We studied of 25 octogenarians consecutive patients (mean age: 83.5 ± 3.1 years, 15 female), of whom 12 (48%) presented with unstable angina pectoris (USAP), 10 (40%) presented with non-ST segment myocardial infarction (NSTEMI), and 3 (12%) with ST segment elevation myocardial infarction (STEMI) who underwent intensive medical therapy such as heparin, nitrat, glycoprotein IIb/IIIa inhibitors and fibrinolytic infusion (only 3 STEMI patients) because of acute coronary syndrome at intensive care unit. All patient underwent cardiac monitorization such as central venous cathaterization and respiratory monitorization. All subjects gave their consent for inclusion in the study. The investigation conforms with the principles outlined in the Decleration of Helsinki. STEMI was determined by the presence of >30 min of continuous chest pain, a new or presumed new ST-segment elevation ≥2 mm on at least 2 contiguous electrocardiography leads, and creatine kinase-MB >3 times normal. NSTEMI was diagnosed by the presence of chest pain and a positive cardiac biochemical marker of necrosis (troponin or creatine kinase-MB) without new ST-segment elevation. USAP was diagnosed in the absence of ST-elevation and serum biochemical markers when patient complaints suggested an acute coronary syndrome. Blood samples were taken from the antecubital vein for routine biochemical such as glucose, urea, creatinine and lipid profile, and hematologic values. Left ventricular ejection fraction was measured by echocardiography (A Vivid 3 cardiovascular ultrasound system [3S sector probe (1.5-3.6 MHz), GE]) during the hospitalization.

STATISTICAL ANALYSIS

Statistics were obtained using the ready-to-use programme of SPSS version 8.0. Data are expressed as mean ± SD for continuous variables and as percentages for categorical variables. Nonparametric (Mann-Whitney u) test was used to compare continuous variables and the chi-square test or Fischer's exact test was used to compare categorical variables between man and woman. p value <0.05 was considered to indicate statistical significance.

RESULTS

Baseline characteristics such as hypertension and hyperlipidemia, hematologic and biochemical values including complete blood count, glucose, urea, creatinin and lipid profiles between male and female were similar (p>0.05). Eight (32%)) patients (5 female, 3 male) had diabetes mellitus, 10 (40%) patients (6 female, 4 male) had hypertension and dyslipidemia. Two patients (%8) (1 female, 1 male) had peripheral vascular disease. Three (12%) patients (1 female, 2 male) had a history of smoking. A new developing atrial fibrillation were significantly increased in female octogenerian patients (n=6, 24%) as compared with male octogenerian patients (n=1, 4%) (p<0.05). The duration of stay in intensive care unit was 3.3 ± 2.1 day. The intensive medical therapy success rate was 96%. There was one mortality (female patient with atrial fibrillation) in intensive care unit. The causes of death included myocardial infarction complicating ventricular fibrillation. During the intensive care unit period, all patients were receiving aspirin, angiotensin-converting enzyme or angiotensin II receptor blocker, beta blocker and statins.

DISCUSSION

In this study we showed that the frequency of new developing atrial fibrillation in intensive care unit was significantly increased in female octogenerian patients as compared with male.

New onset of atrial fibrillation has been associated with advanced age, coronary artery disaese history, diabetes mellitus, chronic obstructive pulmonary disease, cardiogenic shock, congestive heart failure and decreased left ventricular function (2,5-7). Use of anticoagulant and fibrinolytic (thrombolytic) therapy and central venous cathaterization may associated with new onset of atrial fibrillation that may have relation to in-hospital mortality in patients with acute coronary syndrome in intensive care unit. There are different mechanisms such as congestive heart failure, advanced age and co-morbid diseases including diabetes mellitus and acute renal insufficiency responsible for badly results in patients with atrial fibrillation relation to acute coronary syndrome (6,7). Also, atrial fibrillation may cause hemodynamic variability via a loss of the atrial component of the stroke volume, and decreased ejection fraction (8). A loss of atrial contraction, as a result of atrial fibrillation, reduces cardiac output by approximately 15-20% (9,10). New atrial fibrillation may be associated with higher mortality and other complications including thromboembolic stroke during follow-up at the intensive care unit (1-4). Patients with atrial fibrillation are also at higher risk of other cardiac arrhythmias such as ventricular fibrillation, as in our study, heart failure and major and minor bleeding complications (11,12). These complications may stop up late at the intensive care unit.

In conclusion, the frequency of new developing atrial fibrillation in intensive care unit was significantly increased in female octogenerian patients as compared with male. Atrial fibrillation may be associated with worse outcomes during acute coronary syndrome in female octogenarian patients in intensive care unit.

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