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Symposium: Prehospital & Emergency Medicine: Coronary Care — Improving the Chain of Survival

Cardiac Chest Pain as Emergency Problem and Its Outcome in Crowded Emergency Ward in Teheran, Iran

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Cardiac chest pain with coronary heart disease in one of the most crowded emergency wards in Iran constitutes the leading cause of death in men age >40 years and for women >65 years.⁽¹⁾ It is expected to remain the leading cause of death until 2020.⁽²⁾ In the present study, a survey of consecutive cases of possible acute myocardial infarction admitted to the emergency ward in one of the busiest hospitals in Iran was conducted. The aim was to describe the clinical features, prognosis, and treatment of patients presenting with chest pain in a developing country metropolitan hospital.

Methods: During the three-month period from 08 September 2001 to 08 December 2001, patients with chest pain admitted to the emergency ward at the Be'sat hospital, Teheran, Iran were evaluated. All patients hospitalized suspected of suffering from ischemic heart disease were included in the present study. Demographic data (age, gender, social status), risk factors (smoking, dyslipidemia, hypertension, diabetes), previous medical history (including cerebrovascular disease and myocardial infarction), other medical conditions, clinical and vital signs, electrocardiographic findings and biochemical markers (CK, LDH, AST) were recorded. All patients were followed for three months, and the clinical outcome was recorded.

Results: The records of 240 consecutive patients with cardiac chest pain were available for statistical analysis. The mean age was 53.7 ±14.1 years with a range between 16 and 97 years of age. Of these patients, 47.1% (n = 113) were men and 52.9% (n = 127) were women. The most common time of arrival at the emergency center was 10:00 to 12:00 hours (16.8%) and 22:00 to midnight (13.8%). Patients with the maximum attained level of primary school education predominated (42.9%). The duration of chest pain was <20 minutes in 35% of patients (n = 84); 27.3% of patients (n = 59) were smokers (mean = 81.4%, f = 18.6%; p = 0.000), 65.4% of patients (n = 157) were non-smoker, and 10% of patients (n = 24) didn't respond to this query. The most common pre/co-morbid risk factors in order of frequency were: hypertension, 34.6% (n = 83), previous myocardial infarction (22.9%), dyslipidemia (22.5%), diabetes mellitus (18.3%), and previous CVA (8.3%). The prevalence of hypertension as the most common co-morbid risk factor was approximately twice in women (44.9%) than in men (23.0%). The most common ECG finding was inverted T-wave in (32.5%) and ST-segment depression in 20.4%, and ST-segment elevation in 12.1% of patients respectively; 17.5% (n = 42) had a "normal" ECG. Only

7.6% of patients (n = 18) were transported to this hospital by ambulance; men constituted 83.3% and women 16.7% (p = 0.001); 29.2% of patients had systolic blood pressure >140 mmHg at the time of admission, and 18.8% of patients had diastolic blood pressure >90 mmHg. The most common time interval between the onset of chest pain and arrival time to the emergency ward was 50 minutes. 72.9% (n = 175) were hospitalized in the CCU; 1.3% had successful CPR (n = 3) and were moved to the CCU; 0.8% (n = 2) died despite having CPR performed. One patient died during transportation to the hospital (0.4%), and the remainder (24.6%) were hospitalized for a few hours and then were discharged for outpatient evaluation.

Discussion and Conclusions: This study, like other studies, showed that on average, cardiovascular disease (CVD)-induced chest pain occurs later in life in women. Also, comorbid risk factors like hypertension are more common in women.^{1,3} Pre-hospital transportation time was long. In addition, ambulance transportation was not considerable in comparison with western records. However, some studies mentioned that transfer of unstable angina patients over long distances (e.g., air transport) do not significantly affect the overall mortality and morbidity,⁴ and more investigation is recommended. In those patients who had positive history of cigarette smoking, no significant trend on outcome and mean age was identified in comparison with other studies.⁵ In 18.8% of patients, the diastolic BP was more than 90 mmHg and due to its more important role as a risk factor for MI, should be noticed more and lowered to 80 mmHg, especially in women.⁶

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Current Benefit from AEDs

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Introduction: Sudden cardiac arrest is a major public health problem in Germany. Use of automated external defibrillators (AEDs) has become an important component of emergency medical systems. Sub-group-analysis or studies on selected illnesses often estimate higher survival