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A CLINICAL STUDY OF ACUTE MYOCARDIAL INFRACTION IN PRE AND POSTMENOPAUSAL WOMEN

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HOW TO CITE THIS ARTICLE:
Vijayalakshmi B, Shyamala G. “A Clinical Study of Acute Myocardial Infarction in Pre and Postmenopausal Women”. Journal of Evidence based Medicine and Healthcare; Volume 2, Issue 34, August 24, 2015; Page: 5146-5153, DOI: 10.18410/jebmh/2015/717

ABSTRACT: BACKGROUND: Heart disease is one of the leading causes of death in women. In 1988, cardio vascular death in women exceeded that of men. Coronary heart disease accounts for the majority of cardiac deaths. Awareness of the extent of problem among women careful assessment of individual patient and appropriate treatment will help to improve outcome and decrease thr risk. OBJECTIVE: To study the clinical profile, outcome and risk factor of acute myocardial infarction in pre and post-menopausal women. METHODS: This study was conducted in department of General Medicine, VIMS, Ballari, for period of 2 years from March 1998 to March 2000. CONCLUSION: Majority of the patient were in the post-menopausal age group (47 patients out of 50) and they were not on oral contraceptives and were non-smokers. Mortality was high if the patient had underlying risk factors such as BMI >=24-10/15, hypertention-7/16, diabetes mellitus-3/7 and previous h/o IHD. KEYWORDS: Pre and postmenopausal women, AMI, Modifiable risk factors, Non-modifiable risk factors, Diabetes mellitus, Hypertension.

INTRODUCTION: Myocardial infarction signifies necrosis of myocardium due to interruption of blood supply, which is usually due to coronary occlusion. Infraction can also occur without mechanical obstruction of coronary artery following sharp reduction in volume and oxygen content of coronary blood of any cause. Coronary occlusion may frequently occur without ensuring infraction or vice-versa.

In recent years it is becoming more appreciated that women are vulnerable to cardiovascular disease, albeit with a later age of onset than men, it is not widely known that nearly as many women as men died each year from cardiovascular disease. Since the 1960’s, motility from cardiovascular disease has been decreasing in women in all ages. However the increases in smoking/tobacco chewing in young women increases burden of disease, particularly of cardiovascular disease.

Women are generally older than men at first evidence of coronary disease and myocardial infarction. The gender gap in symptomatic coronary artery disease is leaner with age over 75 years. With no abrupt change at menopause.

The incident of myocardial infarction and angina as manifestation of coronary artery disease are similar for both genders but angina is reported to occur nearly as twice often as MI in women. This difference may be an artifact of the absence of hard criteria for the definition of “angina” (in contrast to specific criteria for the diagnosis of MI).The higher incidence of false positive stress test in women with typical chest pain.
OBJECTIVE OF THE STUDY:
1. To study the clinical profile of acute myocardial infarction in pre and post-menopausal women.
2. To study risk factors of acute myocardial infarction in pre and post-menopausal women.
3. To study the clinical outcome of acute myocardial infarction in pre and post-menopausal women.

METHOD OF DATA COLLECTION:
Design: All female patients admitted to ICCU, VIMS, Ballari, and diagnosed as acute myocardial infarction from 1st March 1998 to 1st March 2000 for a period of two years.

Setting: Department of General Medicine VIMS, Ballari. Patients are subjected to detailed history and complete physical examination data was collected in a pre-designed perform and tested for complete haemogram, urine routine, renal profile, lipid profile, chest x-ray, ECG.

Inclusion Criteria: All pre and post-menopausal women diagnosed to have AMI according to WHO criteria were included.

Exclusion Criteria: All pre and post-menopausal women with.
1. Non-ischemic chest pain and without evidence of electro cardiograph or cardiac enzyme abnormalities.
2. Patient who were in coma.
3. Patient who had cerebrovascular accidents.
4. Patients with pericardial disease.
5. Patient with valvular heart disease and associated angina pain.
6. Patient with thyroid disease.
7. Patient with cardiomyopathy.
8. Patient who had undergone surgical interventions or invasive procedures like coronary artery bypass grafting for recanalisation.

INVESTIGATIONS:
Hb%, Tc, Dc, ESR, Urine Alb, Sug, micro, RBS/FBS/PPBS, B.urea, S.creatinine, S.cholesterol, Lipid profile, Chest X-ray, ECG.

Diagnostic Criteria: WHO Criteria was employed for the diagnosis of acute MI, required at least two of the following three elements be present.
1. A history of ischemic type chest pain.
2. Evolutionary changes on serially obtained electrocardiography (ECG) tracings.
3. A rise and fall in serum cardiac enzyme markers.
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RESULTS:

| Sl. No. | Symptoms                  | Total No. of cases |
|---------|---------------------------|--------------------|
| 1       | Chest pain               |                    |
|         | With radiation           | 42                 |
|         | Without radiation        | 27                 |
| 2       | GIT symptoms             | 35                 |
| 3       | Dyspnea                  | 18                 |
| 4       | Orthopnea                | 12                 |
| 5       | Cough                    | 9                  |
| 6       | Palpitation              | 2                  |

AMI-Symptoms

| Sl. No. | Signs                    | Total No. of cases |
|---------|--------------------------|--------------------|
| 1       | Pallor                   | 33                 |
| 2       | Diaphoresis              | 33                 |
| 3       | Cyanosis                 | 18                 |
| 4       | Respiratory rate         |                    |
|         | Dyspnea (>22/min)        | 14                 |
| 5       | Systolic BP              |                    |
|         | Hypotention (<90mmHg)    | 13                 |
|         | Hypertension (>140mmHg)  | 14                 |
| 6       | Pulse                    |                    |
|         | Bradyarrhythmia          | 2                  |
|         | Tachyarrhythmia          | 1                  |
|         | Ventricular ectopics     | 2                  |
| 7       | LVS3                     | 9                  |
| 8       | JVP-raised               | 2                  |
| 9       | Pansystolic-murmur       | 2                  |
| 10      | S4                       | 1                  |

AMI-signs

| Sl. No. | SES           | Total No. of Cases |
|---------|---------------|--------------------|
| 1       | Low SES       | 30                 |
|         | Middle SES    | 20                 |
| 2       | Rural         | 16                 |
| 3       | urban         | 28                 |

AMI-socioeconomic status
| Sl. No. | Risk factors                  | Total no. of cases |
|--------|------------------------------|--------------------|
| 1      | Menopause                    | 46                 |
| 2      | Age (> 50 years)             | 35                 |
| 3      | Family h/o IHD               | 1                  |

AMI- non-modifiable risk factors

| Sl. No. | Risk factors                  | Total no. of cases |
|--------|------------------------------|--------------------|
| 1      | Hypertension                  | 16                 |
| 2      | Obesity(BMI>=24)              | 15                 |
| 3      | Hyper Cholesterolmia >200mg/dl| 13                 |
| 4      | Past h/o IHD                  | 7                  |
| 5      | Diabetes mellitus             | 7                  |

AMI-modifiable risk factors

| Sl. No. | Risk factors | Total no. of cases |
|--------|--------------|--------------------|
| 1      | BMI >=24     | 15                 |
| 2      | BMI<24       | 35                 |

AMI-showing the risk factor of BMI

| Sl. No. | Risk factors | Total no. of cases |
|--------|--------------|--------------------|
| 1      | IHD          | 7                  |
| 2      | No IHD       | 43                 |

AMI-showing risk factor of past h/o IHD

| Sl. No. | Risk factors | Total no. of cases |
|--------|--------------|--------------------|
| 1      | Hypertension | 16                 |
| 2      | No Hypertension | 34               |

AMI-showing risk factor of Hypertension

| Sl. No. | Risk factors | Total no. of cases |
|--------|--------------|--------------------|
| 1      | Diabetes     | 7                  |
| 2      | No Diabetes  | 43                 |

AMI-showing risk factor of Diabetes-mellitus
DISCUSSION: Studies in different part of India shows that cardiac patients constitute about 10 to 15% of total admission to ICCU, MI can occur in the age groups between 40 to 70 years in 90% of cases. The frequency of diseases is increasing under the age of 40 years in recent years. Kagan et al reported in his Framingham study that in 8 years follow up study of young people (30 to 39 years) the incidents of coronary heart disease was 24/1000 males and 1/1000 in females. Increasing incidence in young Indians is possibly attributed to westernisation of living style, psychosomatic disorders, metabolic disorders and better control of infectious diseases.

Despite the progress in prevention, diagnosis and treatment, of cardiovascular disease still remain the second leading cause of death the risk has been attributed to following modalities like modifiable risk factors which includes dyslipidemia, Tobacco use, Hypertension, Diabetes mellitus, physical in activity, Obesity, Non modifiable risk factors like family history, age, gender, alcoholic, type A personality and stress, low circulating levels of anti-oxidants.

The epidemiological and demographic study’s have demonstrated the role of smoking, obesity and sedentary life style as potent risk factors for AMI. The diet restriction in saturated fat and cholesterol is an important preventive measure on heart disease. A prospective cohort study demonstrated that increased fiber intake was associated with reduced risk of AMI.

Hunninghake & colleagues demonstrated a 9% reduction in LDL cholesterol by long term use of guargum and psyllium.

Apart from clinical diagnosis majority of patients with AMI show changes in ECG or documented, when serial electro cardiograms are compared, however it is one of the most valuable first laboratory test performed. When properly interpreted it is the cornerstone of the diagnosis of AMI and often dictates the initial therapy.

A women suffering from AMI are older and have a history of HTN, DM, unstable angina, hyperlipidemia and congestive heart failure, with history of smoking than their male counter parts this women seek medical attention late due to non-specific symptoms like vomiting, fatigue, dyspnoea in addition to chest pain. A typically symptoms may delay in hospital arrival and care receiving for AMI.

CONCLUSION: The present study showed that majority of patients belong to post-menopausal age group (47 patients out of 50) chest pain GIT disturbances (nausea/vomiting) dyspnea, were the commonest symptoms of presentation. Pallor, diaphoresis and cyanosis were the commonest signs of presentation along with other fitel complication like cardiogenic shock, left ventricular failure, heart blocks and ventricular tachycardia.

The motality was higher if the patients had underlaying risk factors such as BMI > 24, hyperyension diabetic mellitus and previous h/o IHD.

In the present study no patients were on oral contraceptives and none of them were smokers, the clinical study of AMI does not vary in women as compared with men. The prognosis was good if the patients receives intensive coronary care with in six hour of onset of chest pain.
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Date of Submission: 14/08/2015.
Date of Peer Review: 15/08/2015.
Date of Acceptance: 17/08/2015.
Date of Publishing: 20/08/2015.