Comorbid artery disease (CAD) is one of the leading causes of mortality worldwide with similar prevalence in Pakistan. The main objective of the study is to compare the frequency of left main stem disease among patients with ST elevation in aVR.

Methods: This cross-sectional study was conducted in Department of cardiology, Punjab institute of cardiology, Lahore. Sample size of 151 cases is calculated with 95% confidence level, 7% margin of error and taking expected percentage of LMS is 74.2%. The data was collected through non probability consecutive sampling technique.

Results: Mean age of the study population was 55.54±10.1 years. Majority of the cases were male 117(77.5%) and 34(22.5%) were female which were less in quantity. Mean body mass index was 28.61±2.58.

Conclusion: Majority of the cases developed left mainstem disease who have been diagnosed with ST elevation in aVR. A significant difference of the diabetic versus non diabetic was observed who have been noted for LMS disease.

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disease was observed in 50% diabetics and 50% non diabetics. This study concluded that prevalence of LMS is equal in both diabetics and non diabetics. In a study by Ashraf M et al, out of 693 patients with acute coronary syndrome, 54.83% patient had diabetes and 45.16 % patient were non diabetics. In another study by Parvin T et al, left main stem disease was more prevalent in diabetic patients than in non diabetics.

**OBJECTIVES**

The main objective of the study is to compare the frequency of left main stem disease among patients with ST elevation in aVR.

**METHODS**

This cross-sectional study was conducted in Department of cardiology, Punjab institute of cardiology, Lahore. Sample size of 151 cases is calculated with 95% confidence level, 7% margin of error and taking expected percentage of LMS is 74.2%. The data was collected through non probability consecutive sampling technique.

**Inclusion Criteria**

- Gender: both male and female
- Age: 30 - 80 years
- Left main stem disease in patients presenting with ST elevation in aVR of > 1mm on ECG.

**Exclusion Criteria**

- Inability to provide informed consent.
- ACS due to substance abuse.
- On ECG patients having LBBB, RBBB pattern.

**DATA COLLECTION**

After approval from the hospital ethical committee, all patients who will present in the department of medical emergency and fulfill the selection criteria, was included in the study. A valid informed consent was taken after counselling the patients regarding the procedure & objective of the study. The demographic information (age, sex etc.) was recorded. Demographic characteristics of all patients was obtained. Detailed medical history including past history was taken. A detailed physical examination with special emphasis on CVS was performed. ECG of all patients was evaluated followed by angiography for detection of patients with left main stem disease. The patients was labelled as yes if they are found to have left main stem disease.

**DATA ANALYSIS**

All the collected data was entered into SPSS version 22 and analyzed. Quantitative data like age (in years) was presented as means and standard deviations. The qualitative data like demographics (sex; male or female) and number of patients was presented as frequency and percentage.

**RESULTS**

Mean age of the study population was 55.54±10.1 years. Majority of the cases were male 117(77.5%) and 34(22.5%) were female which were less in quantity. Mean body mass index was 28.61±2.58.

It was noted that left main stem disease was in 96(63.6%) of cases while 55(36.4%)were without this disease. Diabetes mellitus was present in 33(21.9%) cases while 118(78.1%) were not diagnosed with the diabetes.

<table>
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<th>Age</th>
<th>Mean</th>
<th>Std. Deviation</th>
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<table>
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<table>
<thead>
<tr>
<th>Frequency</th>
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<tr>
<td>Female</td>
<td>34</td>
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<tr>
<td>Total</td>
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When data was stratified, it was noted that left main stem disease was in 42(77.8%) cases with age 30-50 years and in 54(55.7%) in age group of >50 years with a significant difference (P-value<0.05).
DISCUSSION

The left main coronary artery (LMCA) supplies up to 75–100% of left ventricular mass depending on the dominance type. For that reason acute non-ST-segment elevation (NSTEMI) or ST-segment elevation (STEMI) myocardial infarction due to critical stenosis or abrupt occlusion of the LMCA is a catastrophic situation with a very high in-hospital and long-term mortality. Many cases are never reported because of prehospital death. Although coronary artery bypass grafting (CABG) remains a class I recommendation for LM revascularization in European and American guidelines, percutaneous coronary intervention (PCI) is becoming an attractive option in patients with acute myocardial infarction and LMCA as an infarct-related artery, especially when in cardiogenic shock. Advances in devices and adjunctive pharmacotherapy make PCI of the LMCA feasible and with at least non-inferior results to CABG.

Although electrocardiography is not a highly specific method for the diagnosis of myocardial infarction due to ULMCA disease, especially when ST-elevation is higher than in the V1 lead, which correlates with mortality and hemodynamic deterioration. Mahajan et al. reported that differences in ST-segment deviations in the V1 and V6 leads are even more specific for predicting ULMCA disease than the aVR lead itself.

Despite well-documented female sex-related discrepancies in the presentation, management, clinical course and outcomes in patients with STEMI in the general population, in the elderly and in the young, in the present study we did not find any significant male-favoring difference. This is a surprising finding, leading to the conclusion that the deleterious impact of the LMCA-related myocardial infarction on mortality is the greatest of all known risk factors.

CONCLUSION

Majority of the cases developed left main stem disease who have been diagnosed with ST elevation in aVR. A significant difference of the dia-betic versus non-diabetic was observed who have been noted for LMS disease.

REFERENCES

6. Celano CM, Beale EE, Beach SR, Belcher AM, Suarez L, Motiwala SR, Gandhi PU, Gaggin H, Januzzi Jr...
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