Original Research Article

Angiographic pattern of coronary artery disease in women

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Abstract

Introduction: Globally, there has been a substantial rise in the proportion of women undergoing "coronary angiography" (CAG) over the last few years. The reasons for this evolutionary change may be multifactorial. As a preliminary step in the process of discerning these changes, the clinical and angiographic profiles of women undergoing CAG must be understood. There are not many studies describing the prevalence and pattern of "coronary artery disease" (CAD) in women undergoing CAG. Hence, a study about angiographic prevalence and pattern of CAD especially LMD in women will definitely open up new avenues for the better understanding of the strategy for percutaneous coronary intervention.
Discussion and Conclusion: Given the relatively lower prevalence of obstructive CAD in women. our study revealed women >50 years are potentially high risk subjects for CAD. LMCA and TVD in the elderly women was a red flag which needs to be addressed to prevent mortality and morbidity. Recanalised vessel in younger patients may be due to spasm or due to the thrombus as most our study patients were thrombolysed and anticoagulated. Insignificant coronary artery disease was observed in 25% of the patient and was equally distributed in all age groups.
Keywords: acute coronary syndrome, coronary artery disease, anterior wall myocardial infarction, inferior wall mi, unstable angina, effort angina, non st elevation mi, left main coronary artery disease, triple vessel disease, double vessel disease, single vessel disease.

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INTRODUCTION

Globally, there has been a substantial rise in the proportion of women undergoing "coronary angiography" (CAG) over the last few years. The reasons for this evolutionary change may be multifactorial. As a preliminary step in the process of discerning these changes, the clinical and angiographic profiles of women undergoing CAG must be understood. There are not many studies describing the prevalence and pattern of "coronary artery disease" (CAD) in women undergoing CAG. Hence, uncertainty thrives with regard to the angiographic prevalence and pattern of CAD in women.[1,2,3,4,5] Stenosis of "left main coronary artery" (LMCA) is a relatively uncommon but significant cause of increased morbidity and mortality among patients with CAD. The magnitude of problem imposed by "left main disease" (LMD), though well established in men, has not been explored in women. Moreover the strategy of stent deployment (provisional side branch stenting strategy or two stent strategy) in the interventions of LMCA depends on the pattern of CAD. Hence, a study about angiographic prevalence and pattern of CAD especially LMD in women will definitely open up new avenues for the better understanding of the strategy for percutaneous coronary intervention.[6,7,8]

Research gap

Results of our study helps in having a complete incite in determining estimation of coronary artery disease in women and the angiographic pattern.

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OBJECTIVES

Primary objective

To determine pattern of Coronary Angiographic Findings in women presenting with ischemic artery disease.

MATERIAL AND METHODS

Retrospective descriptive observational study. Study setting and population Patients diagnosed with acute coronary syndrome admitted between December 2012 to Jan 2015 to Sri Jayadeva Institute of Cardiovascular Sciences and Research, Bangalore and Bangalore medical college and research institute Bangalore formed our study group. The period of study was from December 2013 to Jan 2015.

Data requirement

The following data were studied by reviewing records entered in case records and comic computer data: age, sex, risk factors for coronary artery disease were obtained from the details entered at the time of diagnoses. Data collected was maintained in strict confidentiality with access to Principal Investigator and authorized study personnel.

Inclusion Criteria

All women patient presenting with ischemic heart disease satisfying the below criteria were included in our study. The diagnosis of myocardial infarction required the presence of at least two of the following: characteristic chest pain, a cardiac enzyme rise greater than twice the upper normal limit, and compatible ECG changes lasting >48 hours. Myocardial infarction had to be the first manifestation of ischemic heart disease in these patients. Coronary arteriography had to be performed within 3 months of acute coronary syndrome.

Angiographic criteria

Under severity, the three indexes considered were thus 1) vessels diseased, classically the number of major epicardial vessels with >70% narrowing of the lumen diameter. The maximum number of vessels diseased was three.2) A left main stem stenosis of >50% was considered significant.

Exclusion Criteria

1. Patients presenting for second time were excluded from study.
2. Patients presenting with acute coronary syndrome not undergoing coronary angiogram.
3. With underlying neoplasm ,retroviral disease were excluded.

Statistical Analysis

Method of statistical analysis; Descriptive analysis was carried out in this study. The results were expressed as mean. Significance was assessed to 5% level of significance. Student `t` test was used for paired comparisons. In the univariate analysis, categorical variables were compared using Fisher's exact test, and continuous variables were compared using the nonparametric Wilcoxon test. Associations that were statistically significant at the 10% level were entered into the multivariate analysis. - Software namely- SPSS 15.0, Strata 8.0, Medical 9.0 and Systat 11.0 were used for the analysis of the data. Microsoft word and Excel were used to generate graphs and tables.

Ethical issues

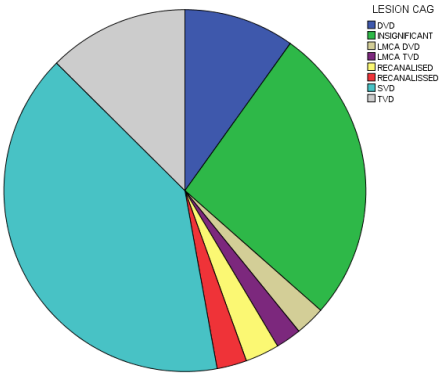
The study involved mainly observational .No incentive was obtained for the study in any form. Authors don't have any conflict of interest.

RESULTS

The study group consisted of 263 patients. The age of the patients ranged between 30-83 years. Among women who routinely undergo CAG, the angiographically determined prevalence of "single vessel disease" (SVD), "double vessel disease" (DVD) and "triple vessel disease" (TVD) are 41%, 10% and 12.5% respectively. LMCA was seen in 5% of patients. recanalised vessel was seen in5% of patients.

Table 1: Angiographic result in women with coronary artery disease

Lesion Cag				
	Frequency	Percent	Valid Percent	Cumulative Percent
Dvd	26	9.9	9.9	9.9
Insignificant	70	26.6	26.6	36.5
Lmca Dvd	7	2.7	2.7	39.2
Lmca Tvd	6	2.3	2.3	41.4
Recanalised	8	3.0	5.7	44.5
Svd	106	40.3	40.3	87.5
Tvd	33	12.5	12.5	100.0
Total	**263**	**100.0**	**100.0**	



Single vessel disease was the predominant lesion noted.

Angiographic result in women with coronary artery disease

Insignificant coronary artery disease was noted in 26% of the patient. Triple vessel disease and double vessel disease was seen in 12 and 10% respectively. Single

vessel disease was the commonest lesion noted in 40% of the patient. Triple vessel disease with LMCA was noted in 15% of the total patients. LMC A formed 5% of the study group.

Table 2: Age group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	>80	6	2.3	2.3	2.3
	41-50	45	17.1	17.1	19.4
	51-60	90	34.2	34.2	53.6
	61-70	73	27.8	27.8	81.4
	71-80	49	18.6	18.6	100.0
	Total	**263**	**100.0**	**100.0**	

DISCUSSION

Age more than50 years formed 82% of our study group. So this age group patients are particularly at a very high risk of coronary artery disease. t. LMCA and TVD was noted in patients aged more than 60 years .Insignificant coronary artery disease was noted in 25% of the patient and was equally distributed in all age groups.

CONCLUSION

There is an alarming increase in the proportion of young women angiographically diagnosed to have significant coronary artery disease. It is essential to identify atherosclerotic risk factors in these women and treat them more aggressively to prevent devastating cardiovascular events. The atherosclerotic burden is greater in elderly women than young women as understood from the higher prevalence of obstructive coronary artery disease in elderly group. In our study LMCA and TVD in the elderly women was a red flag which needs to be addressed to prevent mortality and morbidity. LMCA disease was not seen in women less than 60 years of age. Recanalised vessel in younger patients may be due to spasm or due to the thrombus as most our study patients were thrombolysed with streptokinase and anticoagulated.

REFERENCES

1. Enbergs A., Burger R., Reinecke H. Prevalence of coronary artery disease in a general population without suspicion of coronary artery disease: angiographic analysis of subjects aged 40 to 70 years referred for catheter ablation therapy. Eur Heart J. 2000; 21:45–52.
2. Chaitman B.R., Bourassa M.G., Davis K. Angiographic prevalence of high-risk coronary artery disease in patient subsets (CASS) Circulation. 1981; 64:360–367.
3. Waters D.D., Halphen C., Theroux P. Coronary artery disease in young women: clinical and angiographic features and correlation with risk factors. Am J Cardiol. 1978; 42:41–47.
4. Adão L., Santos L., Bettencourt N. Acute coronary syndromes in young women. Rev Port Cardiol. 2004;23:69–77
5. Welch C.C. Coronary artery disease in young women. Cardiovasc Clin. 1975;7:5–18
6. Sukhija R., Yalamanchili K., Aronow W.S. Prevalence of left main coronary artery disease, of three- or four-vessel coronary artery disease, and of obstructive coronary artery disease in patients with and without peripheral arterial disease undergoing coronary angiography for suspected coronary artery disease. Am J Cardiol. 2003; 92:304–305.
7. Oomman A., Sathyamurthy I., Ramachandran P. Profile of female patients undergoing coronary angiogram at a tertiary centre. J Assoc Physicians India. 2003; 51:16–19.
8. Dave T.H., Wasir H.S., Prabhakaran D. Profile of coronary artery disease in Indian women: correlation of clinical, non invasive and coronary angiographic findings. Indian Heart J. 1991;43:25–29

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