



ORIGINAL RESEARCH PAPER

Cardiology

STUDY ON ANGIOGRAPHIC PROFILE OF LEFT MAIN CORONARY ARTERY STENOSIS IN SOUTH INDIAN POPULATION

KEY WORDS: CAD coronary artery disease, LMCA left main coronary artery, UA unstable angina, STEMI ST elevation MI, NSTEMI, Non ST elevation MI

Dr. Venkatesan. S	Post Graduate In Dm Cardiology, Madras Medical College
Dr. G. Ravi Shankar*	Professor, Institute Of Cardiology, Madras Medical College *Corresponding Author
Dr. N. Swaminathan	Director And Head Of The Department, Institute Of Cardiology, Madras Medical College

ABSTRACT

INTRODUCTION: Left main coronary artery (LMCA) stenosis carries high mortality and morbidity in the absence of revascularization. So, the anatomy and the site of stenosis in the left main coronary artery determine the management option.

MATERIAL & METHODS: 2000 cases of symptomatic coronary artery disease, who underwent coronary angiography at Rajiv Gandhi government hospital and madras medical college, Chennai over a period of one year from march 2018-february 2019 were studied and their coronary angiograms were analysed with respect to the pattern of involvement.

RESULTS: Of the 2000 cases of coronary artery disease, 90 patients have significant left main coronary artery disease. 6th decade is common age group of presentation. Male 72%, female 28%. Of them 57.6% are hypertensive, 64.5 % are diabetics, 36% are smokers. 29% present as STEMI, 43% as NSTEMI/UA, 28% as CSA. Isolated LMCA involvement is seen in 3 cases, associated with single vessel disease in 8, double vessel disease in 28 and triple vessel diseases in 51. Ostio proximal involvement is seen in 15, mid shaft involvement in 7, distal bifurcation involvement in 51, distal shaft without ostium in 6, diffuse involvement in 11 cases.

CONCLUSION: Significant LMCA involvement is seen in 4.5%. distal bifurcation is the commonest site involved. In majority of cases, it is associated with triple vessel disease

INTRODUCTION:

Left main coronary artery (LMCA) stenosis carries high mortality and morbidity in the absence of revascularization. Widely accepted treatment for left main coronary artery (LMCA) stenosis is the emergency coronary artery bypass grafting to its branches, left anterior descending artery (LAD), and left circumflex artery (LCX). After the introduction of drug eluting stent (DES) more no of left main stenting being done¹. The gap in treatment effect between PCI and CABG has progressively diminished. LMCA has higher restenosis rate after balloon angioplasty because of elastic nature². Atheroma may spread from LMCA to LAD³. The anatomy and the site of stenosis in the left main coronary artery determine the management option. The involvement of left main coronary artery and its anatomical pattern are important in deciding management options.

AIM:

To study the pattern of Left main coronary artery (LMCA) stenosis among the symptomatic CAD patients who underwent coronary angiography .

MATERIAL & METHODS:

2000 cases of symptomatic coronary artery disease, who underwent coronary angiography at Rajiv Gandhi government hospital and madras medical college, Chennai over a period of one year from march 2018 - february 2019 were studied and their coronary angiograms were analysed with respect to the pattern of involvement. LMCA involvement is divided into three anatomic regions: 1.the ostium or origin of the LMCA, 2. mid-portion, 3. the distal portion⁴.

Inclusion criteria:

Only the cases with significant LMCA disease, with stenosis of ≥50 % diameter stenosis were included.

Exclusion criteria

- Cases with stenosis <50% stenosis
- Cases who underwent previous CABG or PCI were excluded
- Patients who did not give consent were excluded.
- Results were analysed and tabulated.

RESULTS:

This study is a prospective observational study.

Out of 2000 CAG, LMCA involvement was seen in 90 patients (4.5%).

Figure 1: age distribution of patients with LMCA

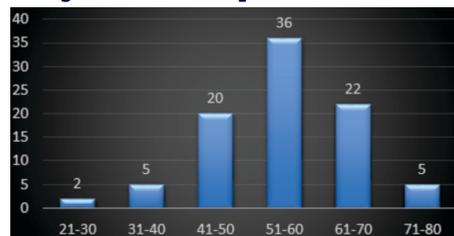


Figure 1 reveals majority of the patients were under 51-60 years age group (40%).

Figure 2: Risk factor associated with LMCA

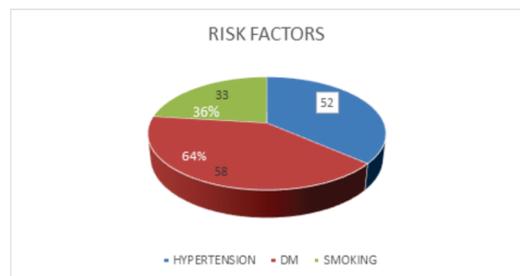


Figure 2 reveals HT present in 57% of LMCA patients, DM in 64% of LMCA patients and smoking in 36% LMCA patients.

Table 1: Sex distribution

Male	Female
65	25

Table 1 reveals distribution of Male 72% and females 28%.

Figure 3 :clinical presentation of LMCA disease

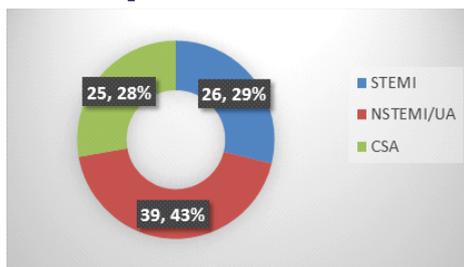


Figure 3 reveals NSTEMI/UA(43%) were more associated with LMCA than STEMI(29%) and CSA(28%).

Figure 4: pattern of coronary involvement

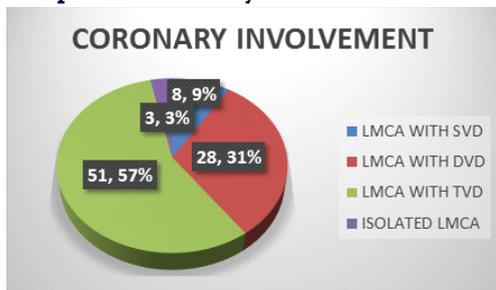


Figure 4 reveals isolated LMCA involvement in 3 patients (3%), LMCA with TVD in 51 patients (57%), LMCA with DVD in 28 patients (31%) and LMCA with SVD in 8 patients(9%).

Figure 5: Pattern of LMCA involvement

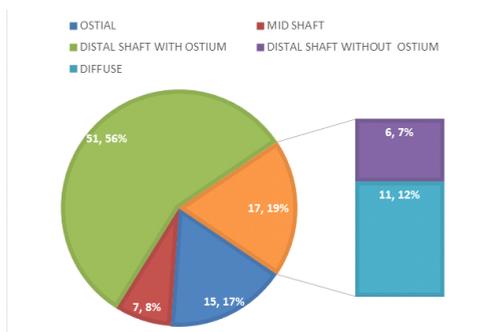


Figure 5 reveals distal shaft with ostium involvement in 51 patients(56%), diffuse involvement in 11 patients(12%), mid shaft involvement in 7 patients(8%), distal shaft without ostium involvement in 6 patients(7%) and ostium involvement in 15 patients(17%).

DISCUSSION:

In our study, the mean age of presentation is 52±13.2 yrs. Similar findings were found in studies by Muhammad Yousuf Shaik et al⁵, Ibrahim Shah et al⁶, by Michel V Cohen et⁷.

In our study, LMCA disease was found to be more common in men (72%) when compared to women (28%). Similar findings were noted in other studies by Ibrahim Shah et al⁶.

In our study HT was present in 57% of LMCA patients, DM in 64% of LMCA patients and smoking in 36% of LMCA patients. When clinical presentation were analysed, NSTEMI/UA(43%) were more associated with LMCA than STEMI(29%) and CSA(28%).

CONCLUSION:

Significant LMCA stenosis is seen in 4.5% in the present series with male preponderance, majority of patients presented with UA/NSTEMI and majority of the patients have triple vessel disease in addition to LMCA stenosis. Distal bifurcation is the commonest type of anatomical involvement. Isolated LMCA involvement is rare in our study.

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