

Distal left Main Coronary Stem Lesion Managed by Interventional Crush Technique

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ABSTRACT:

BACKGROUND:

Interventional Crush might end high rates of restenosis.

OBJECTIVE:

Studying immediate and late outcome of crush technique in distal left main stem lesion intervention.

PATIENTS AND METHOD:

(40) patient had crush technique intervention method for management of LMS lesions, (15) patients done as primary PCI method, while (25) patients as elective management.

RESULTS:

A total of 40 patients with distal left main stem lesion included in our study, their age range between 45-75 years with a mean $\pm$ SD of 59 ± 4.5 years, 25 were male, 15 female.

One patient died in one year follow up because of noncompliance for medication.

One patient had ISR treated by drug eluted balloon. Two patients lost follow up after 2 months.

25 patients (62.5%) had more than one significant lesion, 9 patients (22.5%) had low ejection fraction at time of intervention, functional MR were reported in 5 (12.5%) of patients.

All ischemic chest pain disappeared after interventional procedure.

CONCLUSION:

LMS crush technique is favorable alternative method for the management of LMS especially in patients unable to do CABG.

KEY WORDS: IHD, Left main stem, crush technique.

INTRODUCTION:

Significant left main stem (LMS) stenosis is amongst the most feared findings during work-up of suspected coronary artery disease ⁽¹⁾. Due to its critical location (the LMS supplies blood to two thirds of the left ventricle) acute occlusion is rapidly fatal, and medically managed LMS disease carries a poor prognosis with a one year mortality of approximately 20%. LMS disease became synonymous with surgical disease and mandated a referral for CABG ⁽²⁾.

Early attempts by interventional cardiologists to treat LMS disease with balloon angioplasty and bare-metal stents resulted in unacceptably high rates of restenosis and mortality ⁽³⁾.

The advent of drug-eluting stents (DES), which lead to an unequivocal reduction in restenosis in all vessels and patient subtypes studied, has reignited interest in LMS PCI. As a result of promising observational studies by early pioneers, we are now beginning to see new data from large registries and randomized trials of PCI versus CABG for LMS disease which suggest that PCI is a valuable alternative to CABG in certain patients ⁽¹⁾.

PATIENTS & METHOD:

Design : cross –sectional descriptive study setting Ibn-Alnafees Hospital for Cardiovascular Surgery for the period from January 2011 till January 2014.

Inclusion criteria: Patient who have distal left main stem disease included in this study.

Exclusion criteria:

Diffusely diseased LMS, patient refused, fit for CABG, patient with terminal disease (Like chronic obstructive airway disease, cancer)

All the patients were admitted to the hospital, biochemical tests, ECG & echocardiography were done for them, clopidogril in a dose of 600 mg received before the catheterization, recordable consent for the patient & his family assigned before intervention.

In Philips cathlab FD 20/10 intervention done for them by crush technique which mean one stent in circumflex artery & crushed by stent of LMS & final kissing balloon dilatation.

Patients followed for three days in the hospital, all the patients are well at time of discharge, followed at least for one year.

Ibn AlNafees Hospital For cardiac Surgery.

After 2 months from intervention, 25 patients undergone diagnostic catheterization, 13 patients undergone CT coronary angiography, 2 patients lost follow up after 2 months.

RESULTS:

Crush technique was used, 40 patients included in this study 23 male, 17 female, age 40-75 years with a mean $\pm$ SD of 59 $\pm$ 4.5 years, 25 (62.5%) were male, 15 (37.5%) were female. primary PCI done in 15 patient, elective PCI done in 25 patients, 25 patients have other vessels involved, degree of stenosis 80-95%, 31 patients have fair-good LV function, 6 patients have moderate LV dysfunction & 3 patients have severe LV dysfunction.

One patient died in one year follow up because of noncompliance for medication.

One patient had Instant restenosis (ISR) treated by drug eluted balloon.

Two patients lost follow up after 2 months.

25 patients (62.5%) had more than one significant lesion, 9 patients (22.5%) had low ejection fraction at time of intervention, functional MR were reported in 5 (12.5%) of patients,

All Ischemic chest pain disappeared after interventional procedure

DISCUSSION:

The present study was aimed at elucidating the influence of DESs on daily practice and results of angioplasty of LMS stenosis in Ibn AlNafees Cardiac Center in Iraq. Ibn AlNafees Hospital For Cardiovascular Surgery which is one of the oldest cardiac center in Iraq with early experience in cardiac intervention in the middle east.

It is now clear that LMS PCI does not carry a death sentence for the patient and can be carried out with no increase in hard clinical endpoints in patients unfit for CABG.

It is impossible for us to identify an acute left main stem coronary artery occlusion until the patients are in the catheterization laboratory undergoing coronary angiography. Therefore, there may not be enough time for emergency CABG in this setting⁴. Primary PCI can offer immediate restoration of coronary flow in such cases and saves lives. Every effort should be made to decrease the time from the first medical contact to balloon inflation⁽⁵⁾, in our study 10 patients underwent primary PCI.

In a systematic review and meta-analysis of 1278 patients, Biondi-Zoccai et al.⁽¹²⁾ have shown that treating left main stem coronary artery lesions with drug-eluting stents is associated with a 5.5% (3.3-7.7%) risk of death, a 16.5% (11.7-21.3%) major adverse cardiac events MACE rate, and a TLR rate of 6.5% (3.7-9.2%). Distal LM disease is a predictor of MACE and target lesion revascularization TLR; however, it is the

presence of high-risk features that predicts death. The review also shows that most series have reported low rates of stent thrombosis (ST) (0-2%) apart from the Price et al.⁽¹³⁾ group (4%).

The current study indicates that stenting of LMCA stenosis improves both the immediate and the long-term clinical outcomes. Most of the procedures in the current study were elective, most patients (31 patients) had normal LV function.

In the current study, clinical follow-up after 1 year follow up shows one mortality was detected.

CONCLUSION:

LMS crush technique is a favorable alternative method for the management of LMS especially in patients unable to do CABG.

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