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Full Length Research Article

OUT-COME OF SINGLE VESSEL CORONARY ARTERY DISEASE – A ONE AND HALF YEARS STUDY

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ABSTRACT

Coronary Artery Disease is one of the most important life threatening ailment in modern world. Single artery block ≥ 70% requires stent implantation for revascularization point of view. One hundred patients of single vessel coronary artery disease (SV-CAD) were underwent full medical treatment for one and half years in place of revascularization. They refused revascularization due to their financial constraint. During the study period, only one patient died due to heart failure at Emergency Room of the same tertiary care centre, two patients were admitted with chest pain and another two admitted with left ventricular failure in the study hospital. But the rest ninety five patients i.e. 95% were in good condition (satisfactory) with the medical treatment and regular check-up. Therefore if economic background does not permit instantly for revascularization treatment, there is no fear for the valuable life. One can go for medical treatment along with regular checkup which can alleviate the mortality and the patient may become symptom free with such a treatment.

INTRODUCTION

What I'm going to tell in the next few lines are not new. Coronary artery disease (CAD) is the biggest challenge in this days. In India we are about to see an explosion of CAD and in the next decade it will overtake infectious disease as the most common cause of death in the country (Manotosh Panja, ?). An epidemic of CAD is being seen in developing countries during the last three decades (Christopher, 1998). There is an alarming rise in the incidence of CAD in young Indians (< 45 years). World Health Organization (WHO) has predicted that by A.D. 2020 up to three quarters of death in developing countries would result from non-communicable disease and that coronary heart disease will top the list of killers (Gupta, 1996; Gupta, 1997).

The treatment of patients with coronary heart disease changed dramatically with the development of Surgical coronary artery revascularization technique in the 1970s with Percutaneous Coronary Intervention (PCI) in the next decade, performed initially with balloon angioplasty and then, beginning in 1986, with metallic stents and then, in 2003 in the united states, with drug-eluting stents (DES) (The Heart 13th, ?). What about the outcome of Single vessel CAD who were only on medical treatment (by compulsion due to economic constraint) in the next one and half years after the Angiographic diagnosis. The angiography compared to Medical Therapy Evaluation (ACME) and Second Randomized Intervention Treatment of Angina (RITA-2) trials randomized mostly stable, single vessel disease patients reporting better angina relief with angioplasty with similar rates of death or myocardial infarction (MI).

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MATERIALS AND METHODS

This study was conducted in the Cardiology Department of R.G.Kar Medical College and Hospital, Kolkata. The Acute Coronary Syndrome (ACS) and confirmed Acute Myocardial Infarction (AMI) cases, aged between 45 years and 75 years of either sex after confirm diagnosis of Single vessel occlusion ≥ 70% lesion by Coronary Angiography (CAG) in the Cath. Lab, were considered as study population. Total 100 (one hundred) of such patients (Male 60, Female 40), were taken whose monthly income were between Rs.5000/- to Rs.9000/- per month. Regarding addiction; most of the male (47) subjects were smoker and 13 were non-smoker, 24 were alcoholic and 36 non-alcoholic. But none of the female subject was addicted. The patients had the complains of Chest pain with/without sweating. Regarding biochemical parameters; among 60 males, 36 were having dyslipidimia and 18 were having hyperglycemia and among 40 females, 18 were having dyslipidimia and 12 were having hyperglycemia. These parameters achieved after their admission in the Cardiology ward. Coronary Angiographic (CAG) findings (Single artery occlusion ≥ 70%) of the Study subjects were in RCA (Right Coronary Artery) 60 cases, LCX (Left Circumflex Artery) 32 cases and LAD (Left Anterior Descending Artery) 8 cases.

Table No. 1. Distribution of Sex among the Study Subjects

Total	Male	%	Female	%
100	60	60	40	40

Table No. 2. Distribution of Age among Study Subjects

	45 – 60 years	61 – 75 years	Total
Male	52	8	60
Female	34	6	40

Table No. 3. Distribution of Addiction (Only male subjects)

N=60	Smoker	Non-smoker	Alcoholic	Non-alcoholic
Number	47	13	24	36
%	78.3	21.7	40	60

Informed and written consent were obtained from the willing participants after a complete explanation of the methodology. The most important information for the study was, the patients were unwilling to do Percutaneous Coronary Intervention (PCI) due to economic constraint. They conveyed their "intention to treat" them by medical management only. Our medical team tried to convince them and explained thoroughly regarding the necessity of regular follow-up as per advice and taking of regular drugs for medical management.

Table No. 4. Biochemical Parameters of the Study Subjects (detected after admission)

Study Subjects	Male 60	Female 40
Dyslipidemia	36	24
Hyperglycemia	18	12

Table No.5. Coronary Anatomy (after CAG); Single Artery Occlusion (≥70%)

RCA	LCx	LAD	Total
60	32	8	100

Table No. 6. Follow-up Results of one and half years study

Total	Expired	LVF	Angina	Satisfactory
100	1(M)	2(M)	2(1M+1F)	95

At the time of discharge every patients of the study group were informed about the routine visit to the Cardiology Out Patient Department (OPD) as per advice and also follow the medical advice. They also advised to attend OPD for routine follow-up after one week of discharge, then after 2nd. and 4th. Week.

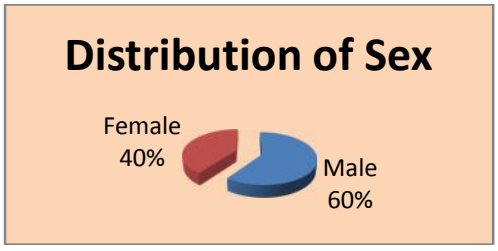
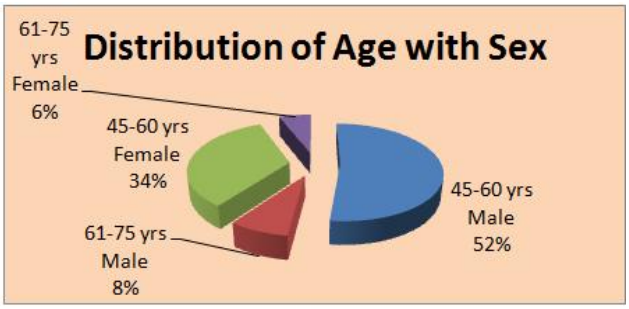


Fig. 1.

Thereafter at 2nd. and 3rd. month interval, but, not more than that. During the follow-up, serum lipid profile and serum glucose contents were advised accordingly as per their initial findings and treated likewise.



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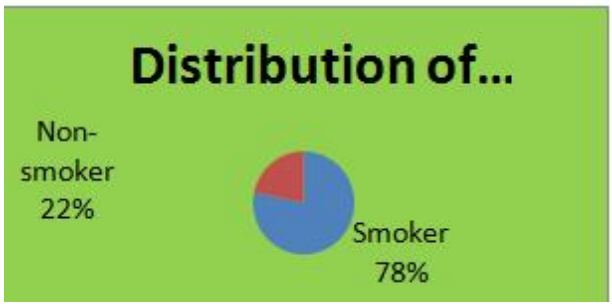

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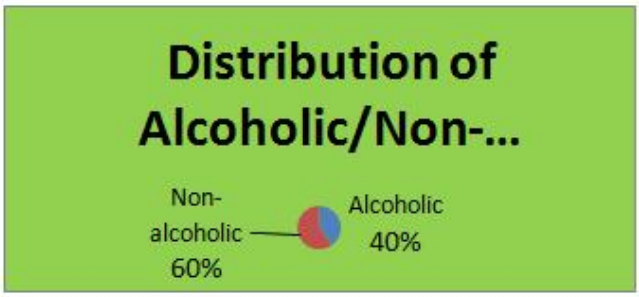
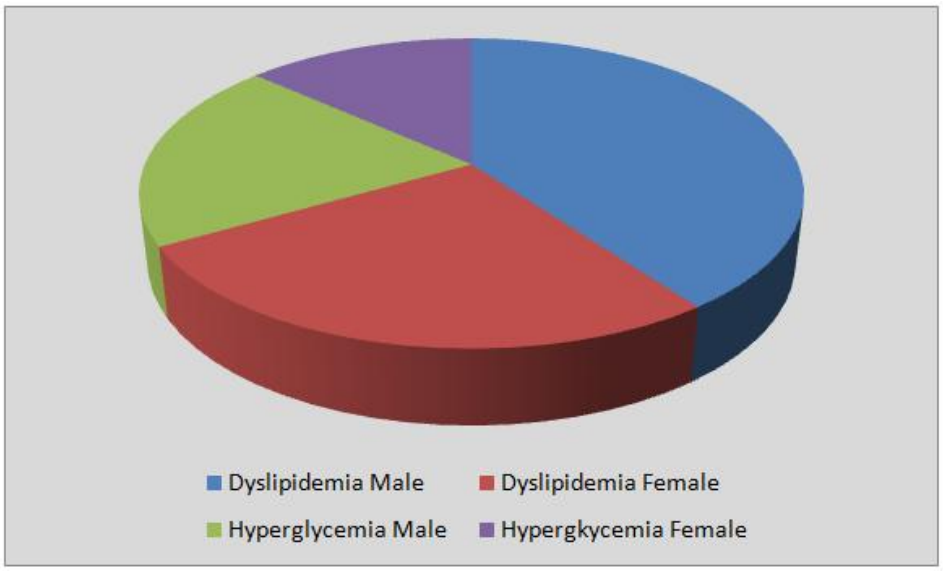


Fig.4.

Few patients were advised for ECG (Electrocardiogram)as per the complaints, but the findings were not significant as compared to their initial diagnosis.

Observations

Among 100 cases, one patient expired at Emergency Room (ER) within 18 months**,** two patients admitted with Left Ventricular Failure (LVF), another two had an attack of chest pain. The later 2+2=4 patients admitted in the Indoor of Cardiology Department of R.G.Kar Medical College and Hospital, treated conservatively and discharged after one week of admission with satisfactory condition. But the rest 95 cases reported doing well at different visits in the Cardiology OPD.
The treatment modality were Nitrates-long acting, Beta-blockers (without any contraindication), Angiotensin Converting Enzyme (ACE) Inhibitors or Angiotensine Receptors Blockers (ARB) with normal renal biochemistry profile; Antiplatelets, and Statins especially Atorovastitine, Proton Pump Inhibitors (PPI), Alprazolam (not to everybody).
The rest 95 cases have crossed one and half years tenure nicely with a few cases of slight chest pain once in a month or in two months which were relieved by taking 5mg sub-lingual nitrates.



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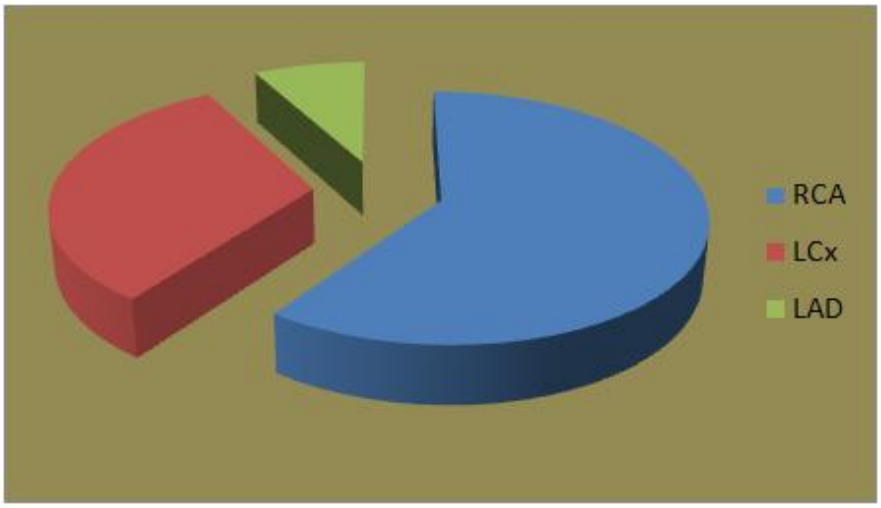

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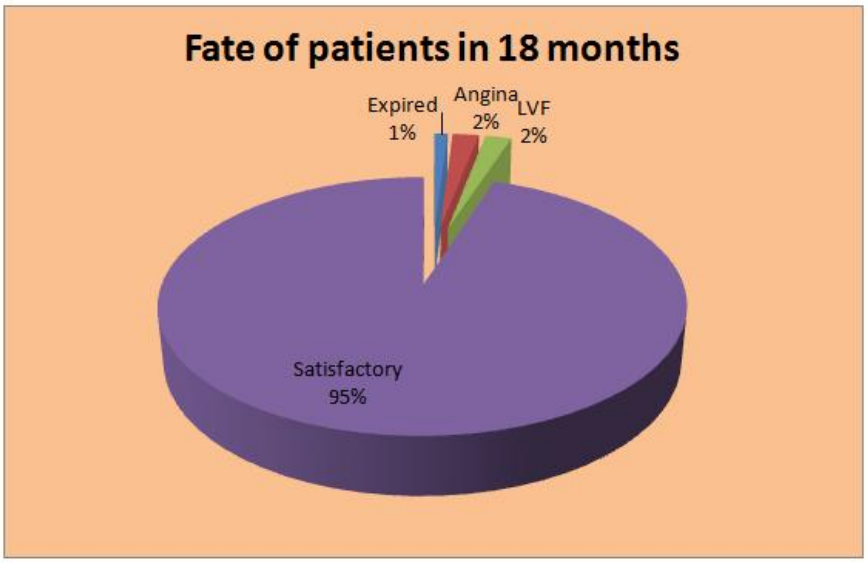

Fig.7.

DISCUSSIONS

In a study,"Angioplasty versus Medical Therapy for Single-Vessel Coronary Artery Disease" (Angioplasty versus Medical Therapy for Single-Vessel Coronary Aretry Disease, 1992) published in NEJM 1992, the authors showed that Percutaneous Transluminal Coronary Angioplasty (PTCA) was better than Medical therapy. But 91% PTCA group patients received medical treatment over entire six months follow up.

In another study, "Outcome in one-vessel coronary artery disease" (Califf, 1983) by R.M. Calif et al showed that, there is no difference in survival or total cardiac events were found with surgical or non-surgical therapy. The relief of angina was superior with surgical therapy, although the majority of non-surgicaly treated patients had significant relief of angina.

But in our study, the patients were unwilling to perform PTCA due to their financial crisis, and 95% (95/100) patients were passed very satisfactorily one and a half years only with medical full therapy.

Conclusion

In respect to cost effectiveness and also morbidity and mortality concerned, if Single vessel CAD patient wants to take only medical therapy without going for PCI/PTCA; he/she can accept it without any fear, but he/she must follow the medical advice properly.

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