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STUDY OF CLINICAL AND SURGICAL ASSOCIATION IN PATIENTS HAVING COMBINED CORONARY ARTERY AND CARDIOVASCULAR DISEASES.

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ABSTRACT

ORIGINAL RESEARCH ARTICLE

The association between coronary artery disease and non-coronary atherosclerosis is explained by cardiovascular risk factors. A large majority of patients with combined coronary and carotid disease live for more than 5 years. An increase in CIMT (carotid intima-media thickness) by carotid Doppler ultrasound examination is associated with the presence and extent of CAD. The present study is designed with an objective to study the association of coronary artery disease with various cardiovascular complications. This is a prospective study of patients with proven coronary artery disease or detected on workup for surgery along with significant non-coronary cardiovascular diseases. A total of 40 patients who met with the inclusion criteria were included as a subject for the study. Patients from both the genders from the age 31-80 years were included. The youngest patient was a 38 yrs lady who presented with aorto bi iliac disease 2 years after undergoing CABG. All the selected subjects were assessed for the clinical presentation of the lesion and a maximum 30 patients were observed with Aortoiliac disease. Diabetes was the most common co-morbid factor which affected 36 patients among the selection. Post-operative observation revealed that 30% of patients were found to be diseased by Transient renal dysfunction. This evident that the patients with vascular disease have high concomitant coronary artery involvement with disease. Patients with significant associated carotid stenosis benefit by combined Carotid endarterectomy and CABG. Medically treated patients of ischemic VSD have grim prognosis; nevertheless, cardiogenic shock is an important predictor of surgical outcome.

INTRODUCTION

Patients with coronary artery disease can exhibit substantial vascular involvement, and patients with vascular disease have a high incidence of coronary disease[1].

Genetic aspects of diabetes, diabetic macrovascular complications, and CAD are assumed to have intersections leading to the common effector hypothesis. However, only a few genetic risk factors could be identified that modulate the risk for both conditions. Polymorphisms in TCF7L2 and near the CDKN2A/B genes seem to be of great importance in this regard since they appear to modulate both conditions, and they are not necessarily related to insulin, or hyperglycemia, for CAD development[2].

The association between coronary artery disease and non-coronary atherosclerosis is explained by cardiovascular risk factors. A large majority of patients with combined coronary and carotid disease live for more than 5 years[3–5].

Therefore prophylactic carotid endarterectomy should be considered even in asymptomatic patients to prevent stroke. The degree of internal carotid artery (ICA) stenosis is related to the extent of CAD[6]. Severe, But Not Moderate, Carotid Atherosclerosis May Predict Concomitant Vascular Disease in Other Arterial Beds.

An increase in CIMT (carotid intima-media thickness) by carotid Doppler ultrasound examination is associated with the presence and extent of CAD.[7]

The guidelines support screening for carotid artery disease in patients who are scheduled for coronary artery bypass graft (CABG) surgery and meet one or more of the following criteria:

- age greater than 65 years,
- presence of left main coronary artery stenosis
- peripheral artery disease
- history of smoking
- history of TIA or stroke
- presence of a carotid bruit

The present study is designed with an objective to study the association of coronary artery disease with various cardiovascular complications. Also, the various clinical presentations of included patients and various surgical approaches employed in these patients were studied.

MATERIAL AND METHODS:

This is a prospective study of patients with proven coronary artery disease or detected on workup for surgery along with significant non-coronary cardiovascular diseases.

This is a single institutional study conducted between July 2009 and January 2012. The patients were investigated in a written proforma and inclusion and exclusion criteria were laid down.

PROFORMA

1 name
2 age
3 sex
4 Occupation
5 address
6 chief complaints
7 h/o stroke
8 family h/o stroke
9 diabetes mellitus
10 smoking
11 passive smoking
12 hyperlipidemia
13 physical activity
13a regular exercise
14 sleep apnea
15 estrogen administration
15a drug history
Aspirin
Clopidogrel
Pentoxyphilline
Cilostazol
ACE inhibitors
16 hyperhomocysteinemia
17 hypertension
18 C reactive protein
19 ankle-brachial index
20 intermittent claudication

21 signs of acute limb ischemia

Pain palor paralysis paresthesia pulselessness

Inclusion Criteria

1. Patients with proven coronary artery disease admitted/complicated with other concomitants cardiovascular disease.
2. Patients detected to have coronary artery disease on the workup of non-coronary presentation.

Exclusion Criteria

1. Patients without any coronary artery involvement.
2. All the subjects were informed about the procedure of the observation and duly signed consent was taken from all.

RESULTS AND DISCUSSION.

DEMOGRAPHIC DISTRIBUTION OF PATIENTS:

A total of 40 patients who met with the inclusion criteria were included as a subject for the study. Patients from both the genders from the age 31-80 years were included.

Table 1: Demographic distribution of the patients

Age in years	**No of patients**	**percentage**
31 to 40	03	7.5
41 to 50	04	10
51 to 60	11	12.5
61 to 70	13	17.5
71 to 80	09	22.5
Sex	**No of patients**	**percentage**
Male	32	80
Female	08	20

Among the selected patients' male preponderance 32 (80%), and 8 (20%) females were registered for the study. Maximum patients i.e. 22.5% was observed from the age bracket 71-80 years, followed by 61-70 years i.e. 17.5% and least no of patients were observed from the age bracket 31-40 years i.e. 03 (7.5%) patients.

The youngest patient was a 38 yrs lady who presented with aortic bi iliac disease 2 years after undergoing CABG. The oldest patient was 78 years old male was observed with the symptomatic aortoiliac disease.

CLINICAL PRESENTATION OF ASSOCIATED LESION:

Table 2: Presentation of lesion among the patients

Type of associated lesion	**No of patients**	**Percentage**
Carotid artery stenosis	5	12.5
Porto iliac disease	30	75
Ischemic VSD	1	2.5
Valvular involvement	4	10

Maximum patients 30 (75%) were observed with Aortoiliac disease whereas minimum no. of patient 1 (2.5%) were registered with ischemic VSD. 5 (12.5%) and 4 (10%) patients were registered with Carotid artery stenosis and valvular involvement respectively.

CO-MORBID CLINICAL FACTORS:

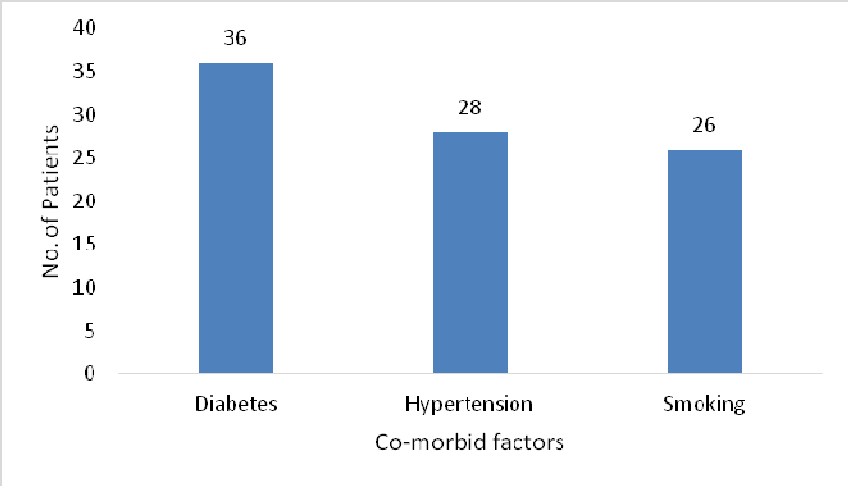

Fig 1: Clinical co-morbid factor among the patients

Diabetes Mellitus was the leading comorbid factor (90%) followed by hypertension (70%) and smoking (65%).

POST OPERATIVE COMPLICATIONS

Table 3: Post-operative complications

Complications	No of patients	percentage
Stroke/TIA	1	2.5
Transient renal dysfunction	12	30
Post-op low cardiac output	02	05

In the immediate post-op period, renal dysfunction was observed in 12 cases, accounting for nearly one-third of the total patients undergoing these various procedures. Two mortalities were observed due to Lower limb ischemia and Ischemic VSD.

CONCLUSION

Patients with coronary artery disease can be associated with significant cardiovascular disease.

From the present study, it can be concluded that patients with vascular disease have high concomitant coronary artery involvement with disease. Patients with significant associated carotid stenosis benefit by combined Carotid endarterectomy and CABG. Patients having coronary artery disease and aortoiliac disease can safely undergo lower limb revascularization with optimum management of comorbid factors.

Medically treated patients of ischemic VSD have grim prognosis; nevertheless, cardiogenic shock is an important predictor of surgical outcome. Coronary artery disease patients can have valvular lesions; combined procedures can be performed with relative safety and good short & long term results.

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