

Electrocardiogram and Echocardiogram Reveals Limited Information Regarding Coronary Artery Status in Majority of Population

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Abstract:

Introduction: Leading cause of death is Heart disease worldwide. Myocardial infarction or birth anomalies persisting later part of life complicates and either from heart failure or from electrical MA activity leading to end the life. In between birth and end moment of life the tests performed for screening may unravel the exact pathology lying.

Aim: In present study we had studied ECG, Echocardiography and Coronary Angiogram reports of patients and analysed the results of individuals.

Method: Reports of the said examinations collected with history sheet from cath Lab. For a period of one year.

Observation: Normal non-invasive examination reports having individuals revealed very poor prognostic Coronary Angiography.

Conclusion: Electrocardiogram and echocardiogram reveal limited information regarding coronary artery status in majority of population.

Keywords: Limited Information Coronary Artery Status ECG Echocardiography.

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Introduction

Thirty percent of death due to either acute or non-acute coronary artery disease(CAD) worldwide². Cardiovascular disease (CVD) is the leading cause of death. [1,2]

Death occurs due to noncommunicable disease(NCD)are estimated to be 82% in developing countries and majority due to CAD. A leading co morbidity for CAD is Diabetes .Irrespective of Insulin dependency silent myocardial infarction (MI)is leading to cardio vascular death (CVD). Atherosclerosis is another factor contributing AMI. [3] Primary prevention by detecting comorbidly and its monitoring and modification can reduce the CVD. Simultaneously early detection and initiation of treatment also has an important role to prevent death from CVD. [4] ECG & Echocardiography are basic tool for investigating CAD for long back. The functional and structural aspect of heart and great vessels as well as coronary arteries are well screened and interpreted by transthoracic echocardiography (TTE). [5]

Following study deals with CAD and mode of investigation considered TTE, ECG & Coronary Angiogram (CAG),

Aims & Objectives

Aim: The aim of this study is to observe clinical profile of suspected CAD cases and their investigation reports by means of ECG, Echocardiography & CAG.

Objectives

- To observe the reports of ECG, Echocardiography & CAG of suspected CAD cases attending outpatient department for day care CAG +/- revascularisation .
- To observe the corelation between clinical profile and investigations results of these patients.

Materials & Methods

Study Area: Department of Cardiology in a tertiary level care Hospital & Heart Institute, Kolkata. Study population.

Patient attending OPD /day care case suspected CAD presenting with angina on exertion (AOE), dyspnoea on exertion(DOE).

Study period: October 2021 – October 2022

Sample Size: 100 consecutive patients presenting with h/o AOE, DOE to cath lab of the said Hospital & Heart Institute, Kolkata, selected for this study. Written consent was taken from each patient and their relatives and studied according to proforma.

Inclusion Criteria: Irrespective of age, sex all cases of mild dyspnoea on exertion (DOE) & mild Angina On Exertion (AOE) attended to outpatient department (OPD) /Day care.

Exclusion Criteria: Patient who do not give consent for participating in the study

Patients having evidence of acute myocardial infarction.

Study Design: Institution based observational and comparative study.

Parameters Considered

1. ECG
2. Echocardiogram
3. CAG

Results: As per proposal data collection done in stipulated time and analysis was done which shows the following results.

Table 1: Showing % of case with CAD associated to normal ECG and Echocardiography

Cad	%
Minor	31
Single Vessel	26
Double Vessel	33
Multi Vessel	10

Table 2: Showing smoking and distribution of cad

% of People with Cad	Smoking
64.2	+
30	-

Table 3: Diabetes and cad

% OF PEOPLE WITH CAD	DM
82	+
18	-

Table 4: Family history of cad suspected

% OF PEOPLE WITH CAD	FAMILY HISTORY OF CAD
32.5	+
68	-

Brief Discussion: It is observed in our study regarding tools for detecting CAD are mostly non-invasive imaging study and invasive imaging study compared to have more significant is the CAG . [6]

It is observed that large percentage of patient having CAD with Comorbidity of Diabetes Mellitus, Bad habits like smoking and Family history of CAD or IHD. [7,8]

For this study design non-invasive cardiological tests ECG, Echocardiography are not so significant in patients suffering from CAD but hemodynamically stable only having mild symptoms. [9]

Summary

Through this study we expected to formulate the age and sex distribution of the patients presenting with suspected CAD.

We observed the dependency of different modes of non-invasive cardiac tests like ECG, Echocardiography for CAD.

These patients have been analyzed regarding their status of coronary artery by coronary angiogram. via radial artery or femoral artery.

Conclusion

At the end of the study what we expected to have an observational & comparative study of patients with CAD the significance of non-invasive cardiological tests like ECG & Echocardiogram. But in conclusion we end by inviting more researchers to work on same topic not to commit the probable outcome of suspected CAD only by ECG, Echocardiography what we do in everyday practice, even we give fitness certificate from cardiological point of view for major surgery or climbing in hills or swimming in pool. We need to look into other tests like CT

Coronary angiogram or stress test before along with preliminary test.

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