Research Article

Correlation between clinical and angiographic findings in patient underwent angiography

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Abstract

Introduction: Cardiovascular diseases are account for approximately 12 million deaths annually and are commonest cause of death globally. The progressive evolution in cardiac catheterization technique coupled with the development of effective treatment options for coronary artery disease, diagnostic coronary angiography has become one of the primary components of cardiac catheterization. **Objective:** To study correlation between clinical and angiographic findings in patient underwent angiography. **Material and Methods:** A cross sectional study was carried out for the period of one Year in Department of Cardiology, Bharati Vidyapeeth Medical College and Hospital, Sangli. 100 patients above 20 years of age, symptomatic patient, asymptomatic patient with electrocardiogram changes, patients who are willfully opting for coronary angiography were included in the study. Patients with previously diagnosed ischemic heart disease and underwent PTCA or CABG are excluded. Coronary angiography either from femoral or radial artery was done. The results of coronary angiography were carefully interpreted. Patients were grouped as Single Vessels Disease (SVD), Double Vessel Disease (DVD) or Triple Vessel Disease (TVD). According to the percentage of stenosis; the patients were expressed as <50% and >50% stenosis. Statistical analysis was done using Microsoft excel and necessary statistical analysis software was used where necessary. **Results:** The majority of patients were male with mean age was 60.19± 11.73 years and 57.70± 9.19 years in females. The clinical characteristics showed that chest pain was common clinical feature (96%). The coronary angiography revealed that majority of patients were having SVD (36%) with involvement of LAD artery (82%). 15% showed normal coronary arteries. The correlation between clinical presentation and stenosis of coronary artery showed no statistical significant. **Conclusion:** The clinical assessment is a good predictor for CAD but it can't be correlated directly to the coronary angiography findings.

Keywords: Coronary angiogram, Coronary artery disease.

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INTRODUCTION

Cardiovascular diseases are account for approximately 12 million deaths annually and are commonest cause of death globally.[1] By the year 2020, coronary heart disease and stroke will hold first and fourth places respectively, in the World Health Organization's list of leading causes of disability.[2] The past 50 years have witnessed great progress in identifying a number of life style, as well as biochemical and genetic, factors associated with coronary heart disease and in disseminating this information to the public.[3] By this time diagnostic facilities also improved dramatically in the field of coronary artery disease. The progressive evolution in cardiac catheterization technique coupled with the development of effective treatment options for coronary artery disease, diagnostic coronary angiography has become one of the primary components of cardiac catheterization. The identification of major risk factors and their effective control through population based strategies of prevention can reduce the incidence of coronary artery disease. Coronary artery disease is the greatest killer of mankind. The rise and subsequent decline in coronary artery disease epidemic in almost all industrialized country in the latter half of twentieth century has been well documented.[1] Cardiovascular diseases have emerged as a major health burden in developing countries.[4] The study thus represents the

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clinical profile and correlation of clinical characteristics of patients with coronary angiographic findings.

OBJECTIVE

To study correlation between clinical and angiographic findings in patient underwent angiography.

MATERIAL AND METHODS

A cross sectional study was carried out for the period of 1 Year from October 2013 to September 2014. The study was done in Department of Cardiology, Bharati Vidyapeeth Medical College and Hospital, Sangli. Patient above 20 years of age, symptomatic patient with or without electrocardiogram ST-T changes, asymptomatic patient with electrocardiogram changes, patients who are willfully opting for coronary angiography were included in the study. Patients with previously diagnosed ischemic heart disease and underwent PTCA or CABG are excluded. The Ethical clearance from college ethical committee was taken. After inclusion, the patients were properly interviewed; meticulous history taking and physical examination were performed. Coronary angiography either from femoral or radial artery was done. The results of coronary angiography were carefully interpreted. Patients were grouped as Single Vessels Disease (SVD), Double Vessel Disease (DVD) or Triple Vessel Disease (TVD). According to the percentage of stenosis; the patients were expressed as <50% and >50% stenosis. Statistical analysis was done using Microsoft excel and necessary STATISTICAL ANALYSIS SOFTWARE was used where necessary.

RESULTS

Table 1: Demographic profile of Patients

Sex	Age (years) Mean ± SD
Male (n=72)	60.19 ±11.73
Female (n=28)	57.70 ±9.19

The majority of patients were male (72%) as compared to females (28%). The mean age was 60.19± 11.73 years and 57.70± 9.19 years in males and females respectively.

Table 2: Clinical Characteristics of Patients

Clinical Characteristics	Frequency (n=100)
Chest Pain	96
Sweating	63
Dyspnoea on exertion	41
Palpitation	11
Breathlessness	09

The clinical characteristics showed that chest pain was common feature (96%) followed by sweating (63%) among the patients.

Table 3: Angiographic finding of coronary arteries involvement

Angiographic finding		No. of patients (n=100)
No. of vessel Involved	SVD	36
	DVD	23
	TVD	26
	Normal angiograph	15
Coronary artery involved*	LAD	82
	LCx	42
	RCA	36
	No involvement	15
% of stenosis of Coronary artery	< 50%	15
	>50%	70
	Normal	15

(* Multiple Responses present)

The coronary angiography revealed that majority of patients were having SVD (36%) with involvement of LAD artery (82%). The stenosis in coronary artery >50% was found in 70% patients while 15% showed normal coronary arteries.

Table 4: Correlation of Clinical and coronary findings

Clinical Characteristics	CAG <50% (n=15)	CAG>50% (n=70)	P value*
Chest Pain	14 (93.33)	68 (97.14)	0.45
Sweating	09 (60.00)	42 (60.00)	0.77
Dyspnoea on exertion	08 (53.33)	27 (38.57)	0.59
Palpitation	03 (20.00)	07 (10.00)	0.24
Breathlessness	00 (00)	08 (11.42)	0.19

(* p>0.05 Not Significant)

The correlation of clinical presentation and coronary finding showed no significant relation. But clinical presentation of chest pain and breathlessness in patients with stenosis >50% were significantly higher than stenosis <50%. (chi square test was calculated for individual clinical feature with p value.)

DISCUSSION

The present study was a hospital based cross sectional study conducted for a period of one year in Bharati vidyapeeth medical college and Hospital, Sangli. A total of 100 patients above 20 years satisfying inclusion criteria during study period were included in the study. The mean age of the study population was 59.5 ±11.1 years as compared to 52±10.8 years in a study reported by Maqbool Jafary *et al*[5] and 62 ±5 in COURAGE trial[6] conducted in USA. The mean age of males and females was 60.19±11.73 and 57.7±9.19 respectively. The disease is very common in younger age group as compared to westernized population majority of adults over the age of 60 years were affected. Genders differences in coronary heart disease risk are also important. In the study majority

of patients were male (72%). Middle aged men have a 2-5 times higher risk than women. There was a clear male preponderance in the present study, which in agreement with previous studies, suggesting that it is predominantly a disease of men.[7,8] It is widely realized that at present developing countries contribute a greater share to the global burden of cardiovascular disease than developed countries. The disease is very common in westernized population affecting the majority of adults over the age of 60 years. It is also rising in developing countries. The majority of patients presented with chest pain (96%) followed by sweating (63%), dyspnoea on exertion (41%), palpitation (11%) and breathlessness (9%). Similarly, Nourjah P.[9] observed that chest pain was the main symptom of CAD and accounts for nearly eight million annual emergency department visits and represents the second most common complaint in emergency department. Majority of the patient suffered from SVD (36%) followed by TVD (26%). In the study done in Akanda *et al*[10] (40.11%) TVD was found in majority of patients. The majority of patients presented with stenosis >50% with involvement of LAD coronary artery (82%) while 15 patients showed normal coronary angiography. The correlation between clinical presentation and stenosis of coronary artery showed no statistical significant but the percentage of patients with stenosis >50% showed significantly more clinical characteristics as compared to other patients. The clinical presentation thus only would not be enough to judge the severity of coronary stenosis. The other techniques along with coronary angiography will be helpful to diagnose the severity of disease with minimum time.

CONCLUSION

Thus form the above discussion we conclude that clinical assessment is a good predictor for CAD but it can't be correlated directly to the coronary angiography findings.

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