Title: Risk Factors and Intermediate Outcome of Patients with Coronary Artery Ectasia Presented with Acute Myocardial Infarction

Category: Interventional Cardiology

Abstract

Background: - Coronary artery ectasia (CAE) is uncommon finding. The actual prevalence and outcome of CAE in Egypt is not well studied. we aim to study the prevalence, risk factors and intermediate outcome of CAE in patients presented with acute myocardial infarction.

Method: - It is a non-randomized cohort study. Our data base was searched for all patients diagnosed as ST elevation myocardial infarction (STEMI) and were undergone primary percutaneous intervention (PPCI) during the period between August 2015 to August 2017 (n= 800 patients), Out of them, 27 patients were diagnosed to have CAE.

Results: - Prevalence of CAE was 3.4%. most of the patients were men. Hyperlipidemia and smoking were the most common risk factors, but diabetes and hypertension were less common as shown in table 1. Right coronary artery was the most frequent vessels affected with ectasia. T*ype II* coronary ectasia was the most common type detected in angiogram (44.4%). Thrombectomy and pre-dilatation were done in most patients (51.8% and 63% respectively). 74% of patients implant coronary stents and most of them underwent deferred stenting after 24 hours. PCI angiographic and procedural success occur in 20 (74.1%) and 18 (66.6%) of patients. Failure of ECG resolution occurred in 52% of patients. In hospital patient death occurs in 2 (7.4%), heart failure in 5 (18.5%), and Recurrent angina in 7 (25.9%). The total events over six months of patient follow up were as follow; death occurred in 4 (14.8%), rehospitalization in 10 (37%), re- infarction in 6 (22.2%), and heart failure in 9 (33.3%). clinical success occurred only in 9 (33.3%) of patients. In regression analysis, it was noticed that presence of ectasia, KILLIP class (> I), and failure ECG resolution were predictors for total events in the current study (table 2).

Conclusion: - CAE is not uncommon finding in Egyptians with Hyperlipidemia and smoking are the most common risk factors for it. Patients with CAE presented with AMI have worth outcome regarding overall morbidity and mortality.

Table 1: Characteristics of studied patients

Table 2: Multivariate regression analysis for prediction of total events

Table 1: Characteristics of studied patients

	CAE (n= 27)
Age (years)	53.19 ± 10.82
Sex	
Male	26 (96.3%)
Female	1 (3.7%)
Diabetes mellitus	6 (22.2%)
Hypertension	5 (18.5%)
Smoking	21 (77.8%)
Hyperlipidemia	18 (66.7%)
Family history of IHD	8 (29.6%)
History of	
Ischemic heart disease	4 (14.8%)
CABG	0 (0%)
PCI	1 (3.7%)
Peripheral artery disease	3 (11.1%)

Data was expressed in form of mean (SD), or frequency (percentage). **CAE**, coronary artery ectasia; **CABG**, coronary artery bypass grafting; **PCI**; percutaneous coronary intervention

Table 2: Multivariate regression analysis for prediction of total events

	Odd's ratio	95% Confidence interval	*P* value
Male sex	1.34	0.45- 3.37	0.66
Age (> 40 years)	1.24	0.45- 3.37	0.4
Smoking	0.46	0.21- 1.06	0.06
Diabetes mellitus	0.51	0.48- 1.53	0.17
Hypertension	0.23	0.02- 2.66	0.24
Family history	1.94	0.79- 4.73	0.14
Ectasia	2.88	1.03- 8.04	**0.02**
KILLIP > I	1.54	0.13- 1.98	**0.03**
Negative ECG resolution	1.96	0.45- 3.06	**0.01**

P value was significant if < 0.05.