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CLINICAL PROFILE OF SPONTANEOUS CORONARY ARTERY DISSECTION – A SINGLE CENTRE STUDY

Cardiology

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ABSTRACT

BACKGROUND: Spontaneous coronary artery dissection is a uncommon cause of Acute coronary syndrome, which commonly affects often young fit and healthy persons without any obvious risk factors. It has been reported in association with peripartum period in women. This study aims to understand the clinical profile & mode of presentation.

METHODS: This study is conducted in Institute of cardiology, RGGGH & MADRAS MEDICAL COLLEGE over a period one year. The clinical characteristics of the patients were noted including age, sex, clinical presentation, duration of hospitalisation and the outcome. The registered patients were followed up to one year for any possible complications. The patients were identified during coronary angiogram.

RESULTS: In our study the mean age of presentation was 42 years. Males are most commonly affected. One female affected with SCAD during postpartum period. There is lack of association with conventional risk factors. Other coronary arteries are free of disease.

KEYWORDS

Spontaneous coronary dissection, SCAD.

INTRODUCTION:

Spontaneous coronary artery dissection is defined as a non-traumatic and non-iatrogenic separation of the coronary arterial walls, creating a false lumen. This separation can occur between the intima and media or between the media and adventitia, with intramural hematoma (IMH) formation within the arterial wall. Intra mural hematoma can compresses the arterial lumen, decrease ante grade blood flow and subsequent myocardial ischemia or infarction.

METHODOLOGY:

This is a Prospective observational descriptive study for a period from Oct 2016 to Oct 2017 done at Institute of cardiology, RGGGH & MADRAS MEDICAL COLLEGE. All cases undergoing coronary angiogram in our institute were included in the study. All registered patients were followed up to one year after the diagnosis.

RESULTS:

Totally 22 patients were registered and followed up to one year. The mean ages of patients are 42 years. Male patients are 21 in number, constituting around 95% of cases. 1 female patient was registered, when she presented with acute anterior wall myocardial infarction during 14 th postpartum day. Hypertension was associated in 4 out of 22 (18.18%). Smoking was associated with 7 out of 22 (31.8%). 3 patients were identified to be both chronic alcoholic and smokers. 17 out of 22 (77.2%) presented with acute STEMI. Two STEMI patients had presented with ventricular tachycardia. 5 out of total 22 patients presented as unstable angina. All of them received anti platelets. All the patients were treated conservatively

- Mean age of presentation (42 yrs)
- Males – most commonly affected
- One female – SCAD during postpartum period
- Lack of association with conventional risk factors
- Other coronary arteries are free of disease.
- Multi vessel SCAD in one patient (LAD &RCA)

Table-1 The Clinical presentation

	CORONOARY DISSECTION
MEAN AGE	41 YEARS (22)
MALE	42 YEARS (21)
FEMALE	25 YEARS (1)
PRESENTATION	
STEMI	17
NSTEMI/UA	5
ARRYTHMIAS	2
ACS	22
SUDDEN DEATH	NIL
EFFORT ANGINA	NIL
AYMPTOMATIC	NIL

Table -2 Risk Factors

DIABETES	5 (22.7)
HYPERTENSION	4 (18.1%)
SMOKING	7 (31.7%)

- **CONCLUSION:**

Spontaneous coronary artery dissection is now frequently diagnosed because of the availability of intravascular ultrasound and OCT, has made the condition to be diagnosed easily. Ours is a single centre study done for a period of one year. Large scale study is needed to understand the natural history of coronary dissection. In our study all the patients responded well to conservative line of management.

DISCUSSION:

SCAD is estimated to be responsible for 0.1 to 0.4% of all ACS cases [1]. It is an important cause of ACS in young women, responsible for up to 25% of all ACS cases in women <50 years of age [2].

The Mayo Clinic registry of 87 consecutive patients with SCAD reported a mean age of 43 years; 82% were female [3]. Forty-five percent of all cases had no cause identified, highlighting that many cases of SCAD remain unexplained. The commonest identified predisposing factors were postpartum, fibromuscular dysplasia (FMD), connective tissue disease and hormonal therapy. Potential stressors include extreme physical exertion particularly in young male patients, intense emotional stress, sympathomimetic drugs (such as cocaine, amphetamines), child birth and Valsalva-like activities (such as coughing, retching, vomiting). Triggers for SCAD are thought to increase shear stress on the coronary artery wall, often mediated by elevated catecholamine levels and intra-abdominal pressure [4].

Conservative management is preferred in stable patients with SCAD as most dissected segments will heal spontaneously. Medical therapy is based upon opinion, with no randomised clinical trials in this area. Initial treatment is similar to standard ACS patients with the use of dual antiplatelet agents, heparin and beta-blockers to preserve patency of the true lumen and prevent thrombotic occlusion. Glycoprotein IIb/IIIa inhibitors have also been used without complications. However, these

agents could potentially delay healing of the intramural haematoma and lead to dissection extension. Thrombolytic agents should not be used due to an increased risk of bleeding and extension of intramural haematoma.

REFERENCES:

1. Mortensen KH, Thuesen L, Kristensen IB, Christiansen EH. Spontaneous coronary artery dissection: a Western Denmark Heart Registry study. Catheter Cardiovasc Interv. 2009 Nov 1;74(5):710-7.
2. Saw J, Aymong E, Mancini GB, Sedlak T, Starovoytov A, Ricci D. Nonatherosclerotic coronary artery disease in young women. Can J Cardiol. 2014 Jul; 30(7):814-9.
3. Tweet MS, Hayes SN, Pitta SR, Simari RD, Lerman A, Lennon RJ, Gersh BJ, Khambatta S, Best PJ, Rihal CS, Gulati R. Clinical features, management and prognosis of spontaneous coronary artery dissection.Circulation. 2012 Jul 31;126(5):579-88.
4. Saw J, Aymong E, Sedlak T, Buller CE, Starovoytov A, Ricci D, Robinson S, Vuurmans T, Gao M, Humphries K, Mancini GB. Spontaneous coronary artery dissection: association with predisposing arteriopathies and precipitating stressors and cardiovascular outcomes. Circ Cardiovasc Interv. 2014 Oct;7(5):645-55.
5. Saw J. Coronary angiogram classification of spontaneous coronary artery dissection. Catheter Cardiovasc Interv. 2014 Dec 1;84(7):1115–22.