

Original article:

Retrospective analysis of angiographic precursors in subacute stent thrombosis

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Abstract:

Objective: Retrospective analysis of Angiographic Precursors in subacute stent thrombosis .

Background: To Study various factors which lead to sub acute stent thrombosis.

Methods: The subjects were 650 patients with stable an acute coronary syndrome who under went PTCA with Stenting with either DES /BMS .

Results: Nine cases (1.38%) presented with SAT with male preponderance (8:1). Prior AMI, Past history of DM& HT, (6.6%) . 70% patients who developed SAT had Vessel Diameter < 2.5mm, were BMS had increased incidence of SAT as compared to DAS. 80% of SAT developed in Patient with stent length > then 15mm as compared to 1% in stent length < 15mm.

Type C lesions had 66% Propensity to SAT as compared to 25% with Type B lesions & 9% in Type A lesions.

Conclusion: SAT is not an uncommon Entity & could be decreased with proper patient evaluation and preventive Strategy . DM,HT, Prior MI Vessel size < 2.5mm , Stent length > 15mm, Type C lesion. Have increased incidence of SAT.

Keywords : Angiography , thrombosis

Introduction:

Analyzing the patient morphology of the last 3 Yrs of patients who underwent angioplasty with stenting and developed subacute stent thrombosis , Analyzing vessel and lesion morphology , Comparison between angioplasty done in patient of acute coronary syndrome and stable patients , Percentage of Patients having subacute stent thrombosis and Stent thrombosis in patients receiving GPIIb/IIIa receptor blockers were our major objectives in this work conducted .

Materials and Methods:

650 patients who underwent coronary angioplasty and stenting from Nov 2014 to April 2017 and

developed subacute stent thrombosis were included in the study.

Selection Criteria:

1. Patient with subacute stent thrombosis.
2. Patient with previous coronary angiography details available with them.

Exclusion Criteria:

Non -Complaint patients where clear history of non-adherence to antiplatelet therapy noted.

Results:

Nine cases (1.38%) presented with SAT with male preponderance (8:1). Prior AMI, Past history of DM& HT, (6.6%) . 70% patients who developed SAT had Vessel Diameter < 2.5mm,

were BMS had increased incidence of SAT as compared to DAS. 80% of SAT developed in Patient with stent length > then 15mm as compared to 1% in stent length < 15mm. Type C lesions had 66% Propensity to SAT as compared to 25% with Type B lesions & 9% in Type A lesions. Presence of subacute stent thrombosis was found to be 1.38% in this study. Majority of cases were from the age group of 45-75 years with a clear male preponderance (Male :Female ratio is 8:1) The presentation of patient with subacute thrombosis and prior myocardial infarction have increased incidence of subacute stent thrombosis. Past history of diabetes and hypertension have increased incidence of subacute stent thrombosis(6.6%) Left anterior descending artery was the most commonly involved vessel (8 out of the nine patients) A significant observation was in 6 of the 9 patients who developed subacute stent thrombosis. The vessel wall diameter was of ≤ 2.5 mm. Bare metal stents with vessel diameter 2.5mm have increased incidence 3.84%) as compared to 3.4% with drug eluting stents.

Discussion:

In our study length of the stent was significant precursor with 80% of the stent thrombosis occurring in patients with stent length more than 15mm. In patient with stent length , Less than 15mm only 1 % had subacute stent thrombosis. Post PCI complications like thrombus , dissection have bearing on the predictors of subacute stent thrombosis. Use of GPIIb /IIIa Receptor blocker Post PCI is debatable, Six (66.6%) patients with type -C Lesion developed subacute stent Thrombosis. Three patient (33.3%) with Type -B lesion developed subacute stent

thrombosis. Difficult access to the lesion is a very important predictor of subacute stent thrombosis.

Incidence of subacute stent thrombosis in our study is 1.38% .Subacute stent thrombosis is evenly distributed in all age groups with male preponderance. Prior myocardial infarction is an important Precursor of subacute stent thrombosis. Past history of Diabetes and Hypertension is a significant Precursor of subacute stent thrombosis. Patient with stent thrombosis were evenly distributed with regards to LVEF. Left anterior descending artery most commonly associated. Vessel diameter ≤ 2.5 mm significant precursor for subacute stent thrombosis. Stent length >15 mm was observed in 80% cases of subacute stent thrombosis.

Type -C lesion and difficult access to the lesion is a very important predictor of subacute stent thrombosis. Subacute stent thrombosis was evenly distributed in drug eluting stent, of label stents and bare metal stent. Associated complications like thrombus, dissection, calcification were found to increase subacute stent thrombosis.

No clear benefit of the use of GPIIb/IIIa receptor was noted.

Conclusion:

SAT is not an uncommon Entity & could be decreased with proper patient evaluation and preventive Strategy . DM, HT, Prior MI Vessel size < 2.5mm , Stent length > 15mm, Type C lesion. Have increased incidence of SAT.

Recommendations:

Though the overall rate of subacute stent thrombosis in our study was 1.38% but if we look retrospectively . At the anatomical, Morphological & other Angiographic Precursor that we have proposed the incidence of subacute stent thrombosis would be much higher.

Abbreviations & Acronyms:

SAT: - Sub acute Stent Thrombosis.

DM: Diabetes Mellitus.

HT: Hypertension.

MI : Myocardial Infarction

DES: Drug Eluting Stent.

BMS: Bare Metal Stent.

PTCA: Percutaneous Transluminal Coronary Angioplasty.

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