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Diffuse Versus Focal Coronary Artery Spasm in Patients with Vasospastic Angina: Comparison of 3-year Clinical Outcomes

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Background: Coronary artery spasm (CAS) is a major cause of myocardial ischemia. However, the incidence and clinical prognosis of diffuse CAS compared with focal CAS has not been fully investigated. We compared diffuse CAS with focal CAS in patients (pts) with vasospastic angina based on 3-year clinical outcomes.

Methods: A total of 2,797 consecutive pts without significant coronary artery disease (CAD) who underwent Acetylcholine (Ach) provocation test were enrolled between Nov. 2004 and Oct. 2010. Patients were divided into three groups according to Ach test results and spasm extent (CAS negative; n = 1,188, Diffuse CAS, >20mm; n = 1,344, Focal CAS, < 20mm; n = 265).

Results: Baseline characteristics were similar between diffuse and focal groups. angiographically, the diffuse group showed higher incidence of multi-vessel spasm (39.2% vs. 10.1%, p < 0.01) and ECG changes (6.7% vs. 3.3%, p = 0.03), whereas the focal group had more myocardial bridges (24.3% vs. 40.8%, p < 0.01). Three-year clinical outcomes including mortality, cardio & cerebro-vascular disease and recurrent chest pain were similar between the two groups. When respectively compared with CAS negative group, only diffuse CAS was shown to be an independent predictor of recurrent chest pain (6.7% vs. 3.7%, p < 0.01), even after adjustment using propensity score matching (OR; 1.63, 95% C.I; 1.08-2.46).

Conclusion: In this study, diffuse CAS was associated with adverse 3-year clinical outcomes. Therefore, intensive anti-anginal management and close clinical follow up would be needed for pts who showed diffuse CAS during Ach provocation test.

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Impact of Percutaneous Coronary Intervention for Left Anterior Descending Artery Chronic Total Occlusion

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Background: Chronic total occlusion (CTO) intervention is still challenging because of the limited procedural success rate and high target failure. The impact of percutaneous coronary intervention (PCI) for CTO in the left anterior descending artery (LAD) is not clear. We evaluated the 12-month clinical outcomes between PCI and optimal medical therapy (OMT) for LAD-CTO patients.

Methods: A total of 218 consecutive CTO patients were divided into 2 groups according to treatment strategy; PCI group (n = 117) and OMT group (n = 101). 12-month clinical outcomes were compared between the two groups.

Results: At baseline, the OMT group had a higher prevalence of elderly, congestive heart failure, left main disease, multivessel disease, multivessel CTO, LCX-CTO, RCA-CTO, and well-developed collaterals (≥ grade 2), whereas the PCI group had a higher prevalence of current smokers. Clinical outcomes at 12 months after baseline adjustment by multivariate analysis showed similar major hard endpoints including mortality, myocardial infarction, revascularization and major adverse cardiac events (Table).

Conclusion: In our study, PCI seems to have no benefit over OMT in left anterior descending artery chronic total occlusion. Long-term follow up with a larger study population will be necessary for further evaluation.

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Impact of Drug-eluting Stent-associated Coronary Artery Spasm on 3-year Clinical Outcomes: A Propensity Score Matching Analysis

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Background: It has been reported that significant endothelial dysfunction or clinically evident vasospasm can be associated with drug-eluting stents (DESs). However, the impact of DES associated coronary artery spasm (CAS) on 3-year clinical outcomes in patients (pts) with vasospastic angina has not been fully elucidated.