

artery in 12 cases(1 left main),circumflex artery in 10, right artery in 11. TIMI flow at the diagnosis was:3 or 2 in 13 Pts and 0/1 in 20 Pts. According to the National Heart, Lung and Blood Institute (NHLBI) classification:1 Pt showed type A coronary dissection,17 type B, 5 type C, 3 type D, 5 type E and 7 type F.In 2 Pts SCAD occurred in the post partum period, in 1 Pt during estrogen-progestin hormonal therapy.2 Pts were affected by antiphospholipid syndrome,1 Pt had hyperfibrinogenemia,1 mutation of prothrombin gene,1 Hashimoto thyroiditis. 26 Pts(78%) were treated with conservative medical therapy (10 Pts only with ASA 100 mg die, 8 with double antiplatelet therapy ASA + Clopidogrel, 3 Pts with warfarin and 5 Pts with ASA + Warfarin).In 5 Pts (15%) we performed an emergency PCI + stent and in 2 Pts an emergency coronary artery by-pass graft operation. 1 Pt dead for cardiogenic shock after the coronary angiography. In 15 pts (42.4%) we performed the angiographic follow up at 6 months:7 Pts no evidence of SCAD,4 Pts persistence of dissection,2 Pts with one vessel disease at the first coronarography showed two vessels disease at the control exam.In the 2 Pts with by-pass we observed the complete resolution of dissection in the native vessels with occlusion of the grafts.

Conclusions: The SCAD is more frequent in women (65%).The prognosis is good in the population treated with medical therapy.Mortality is low (1 Pt).The percentage of spontaneous resolution of coronary dissection is elevated (59%).

TCT-436

Association of Myocardial Bridge and Acetylcholine Dose Response in Patients with Vasospastic Angina

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Background: It is well known that myocardial bridge (MB) is a risk factor of vasospastic angina. But, clinical significance and angiographic characteristics of patients (pts) with both (+) acetylcholine (ACh) provocation test results and MB according to ACh dose are not clarified yet.

Methods: A total 3034 consecutive pts underwent coronary angiography with intracoronary ACh provocation tests were enrolled for this study. ACh was injected by incremental doses of 20, 50, 100µg into the left coronary artery. Significant coronary artery spasm (CAS) was defined as focal or diffuse severe transient luminal narrowing (>70%) with/without chest pain or ST-T change on ECG. A total 483 pts (15.9%) had both MB with vasospasm. We compared the clinical and angiographic characteristics, and clinical outcomes of (+) provocation pts with MB according to ACh dose (20, 50, 100µg).

Results: The baseline clinical and procedural characteristics are well balanced among the three groups. There was no difference in the incidence of chest pain, ischemic EKG change and AV block in 3 groups. But, the pts with Low ACh dose group (20µg) was associated with higher incidence of baseline spasm, severe vasospasm, more diffuse spasms (>30mm) than those with the High dose group (50,100µg). The incidence of 12-month mortality and recurrent chest pain were higher in the Low ACh dose group (20µg, Table).

Conclusions: The pts with MB significantly responded to low ACh dose were also associated with more diffuse, severe and basal spasm than pts respond to high dose consistent with those without myocardial bridge and 12-month mortality and recurrent chest pain were higher incidence in Low ACh dose group (20µg), suggesting more intensive medical therapy with close clinical follow up will be required for these patients.

Table. Angiographic and clinical parameters according to ACh dose

Variables, n (%)	ACh 20ug (n=23)	ACh 50ug (n=147)	ACh 100ug (n=313)	P-value
Myocardial bridge				
Baseline spasm (narrowing>30%)	14 (60.8)	44 (29.9)	79 (25.2)	0.003
ACh induced spasm (narrowing>70%)	23 (100)	130 (88.4)	214 (68.3)	<0.001
QCA Analysis				
QCA, <50%	0 (0)	5 (3.4)	14 (4.4)	0.295
QCA, 50-70%	10 (43.4)	40 (27.2)	89 (28.4)	0.439
QCA, >70%	13 (56.5)	85 (57.8)	111 (35.4)	<0.001
Diffuse spasm (> 30mm)	14 (60.8)	97 (65.9)	161 (51.4)	0.010
EKG change	1 (4.3)	9 (6.1)	11 (3.5)	0.315
AV block	5 (21.7)	32 (21.7)	51 (16.2)	0.164
Chest pain	11 (47.8)	86 (58.5)	156 (49.8)	0.278
12Month Clinical Outcomes				
Mortality	1 (4.3)	0 (0)	0 (0)	0.013
Recurrent Chest Pain	2 (8.6)	4 (3.2)	3 (1.4)	0.043

TCT-437

The Impact of Gender difference on Angiographic Characteristics During Intracoronary acetylcholine provocation test in Korean patients

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Background: The gender difference is known to be a predictor of coronary artery spasm (CAS). However, angiographic characteristics during ACh provocation test according to the gender difference was rarely reported.

Methods: A total 2504 consecutive patients without significant coronary artery disease who underwent the acetylcholine(ACh) provocation test were enrolled between November 2004 and October 2010. The patients were divided into two groups according to gender (male : n=1158, female : n=1346).

Results: At baseline, the incidence of current smoking and the level of body mass index, triglyceride, and uric acid were higher in male patients. But, the level of low density lipoprotein and high density lipoprotein were higher in female patients. At angiographic characteristics, the incidence of myocardial bridge, ACh induced CAS, multivessel and diffuse spasm, chest pain during the ACh provocation test were higher in male patients. Multivariate analysis showed that male gender was a predictor of ACh induced CAS (odds ratio : 1.245, 95% confidence interval: 1.004-1.543, p<0.001), and old age, current smoking, myocardial bridge and baseline spasm were also a predictor of ACh induced CAS.

Conclusions: In this study, male patients was more associated with conventional cardiovascular risk factors and also an independent predictor of ACh induced CAS, and multiple and diffuse spasm. Therefore, gender difference must be considered in antianginal treatment and male patients with CAS would require more intensive treatment and close clinical follow up.

1. Baseline Characteristics between gender groups

Baseline characteristics	Male (n=1158)	Female (n=1346)	P-value
Age	51.17±12.61	56.14±11.97	<0.0001
Body mass index	24.56±3.114	23.96±3.433	<0.0001
Left Ventricular ejection fraction(%)	58.72±4.631	58.81±4.621	0.7068
Hypertension	478 (41.2)	374 (42.6)	0.4896
Dyslipidemia	169 (14.5)	208 (15.4)	0.3490
Current smoking	492 (42.4)	44 (3.2)	<0.0001
Laboratory finding			
Total cholesterol	179.9±36.67	183.4±36.37	0.0005
Triglyceride	150.2±109.1	118.2±77.97	<0.0001
LDL-C	114.6±33.46	118.5±33.31	0.0140
HDL-C	48.57±12.25	54.78±13.60	<0.0001
Uric acid	5.277±1.276	4.187±1.054	<0.0001

2. Angiographic Characteristics during ACh provocation test

	Male (n=1158)	Female (n=1346)	P-value
Myocardial bridge	297 (25.6)	206 (15.3)	<0.0001
Baseline spasm (narrowing>30%)	294 (25.3)	371 (27.5)	0.2193
ACh induce spasm (narrowing>70%)	709 (61.2)	700 (52)	<0.0001
Multivessel spasm	233 (21.8)	217 (16.1)	0.0003
Diffuse long lesion (> 30mm)	378 (49.7)	371 (42.4)	0.0092
Acetylcholine dose			
ACh 20ug	43 (3.7)	38 (2.8)	0.2094
ACh 50ug	247 (21.3)	225 (16.7)	0.0032
ACh 100ug	419 (36.1)	437 (32.4)	0.0506
EKG change	46 (3.9)	42 (3.1)	0.2483
Chest pain	467 (40.3)	659 (48.9)	<0.0001

3. Multivariate analysis of ACh induced CAS

Variable, n(%)	P-value	Odds ratio	95% C.I.
Age	<0.001	1.023	1.014-1.030
Gender (Male)	0.046	1.245	1.004-1.543
Body mass index	0.170	1.020	0.991-1.048
Hypertension	0.040	0.814	0.668-0.990
Diabetes	0.260	1.182	0.883-1.582
Dyslipidemia	0.922	1.013	0.778-1.319
Current smoking	0.004	1.413	1.118-1.704
Myocardial bridge	<0.001	3.217	2.588-4.125
Baseline spasm (narrowing>30%)	<0.001	1.592	1.292-1.962