Basic Science, Animal Models and Preclinical Studies (TCTAP A-037)

TCTAP A-037
Role of Rosuvastatin Pretreatment in Prevention of Contrast Induced Nephropathy in Patients Undergoing Coronary Angiography
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Background: A lot of prospective and retrospective studies focused on statin therapy as a specific prophylactic measure of contrast-induced nephropathy. Although these trials studied the role of different types of statins (atorvastatin, simvastatin and pravastatin) in prevention of contrast-induced nephropathy, few studies tested the role of rosuvastatin. In this current study, the aim was to assess the efficacy of short-term high-dose rosuvastatin pretreatment therapy for the prevention of contrast induced nephropathy. 

Methods: This study prospectively included two hundred patients who underwent coronary angiography, and were randomized into two groups: control group (included 100 patients who did not receive statin therapy) and statin group (included 100 patients who received rosuvastatin 20 mg/day 3 days before and 7 days after coronary angiography). According to recommendations of the National kidney foundation, results had been recorded using both serum creatinine and glomerular filtration rate levels.

Results: There was statistically significant reduction in the incidence of contrast-induced nephropathy in rosuvastatin pretreated patients (“22%” and “15%” of them developed contrast-induced nephropathy regarding the glomerular filtration rate and serum creatinine levels respectively), compared to those in the control group (“35%” and “38%” regarding the glomerular filtration rate and serum creatinine levels respectively) with P value (<0.001 regarding serum creatinine and <0.042 regarding glomerular filtration rate).

Conclusion: Although the results of some clinical studies to prevent contrast-induced nephropathy using statin pretreatment are conflicting, the current study coincided with several clinical studies in favoring statin pretreatment for preventing contrast induced nephropathy in patients undergoing coronary angiography.

Bifurcation and Left Main Stenting (TCTAP A-038 to TCTAP A-047)

TCTAP A-038
Promising Results of Stent Boost Assisted Modified Minicrush Technique for Treating Bifurcation Lesions
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Background: How Large, How much Important and the Disease Status of the Side Branch (SB).

Methods: Total 50 patients were studied with a one year follow-up. The Stenting was done by using modified Minicrush bifurcation technique assisted by stent boost.

Technique: Side branch (SB) stent positioned 2mm into main branch (MB), with MB balloon centering the carina of SB. The SB stent (DES) dilated at nominal pressure, check injection given to look for dissection distal edge of SB stent. The floppy wire and balloon removed from the SB, then in MB - dilation given with NC balloon at 14 atm. Then MB (DES) of approximate size is deployed at nominal pressures .The projection of SB stent in to MB is checked by stent boost. SB is re crossed with a floppy wire from the distal cell of stent strut. The serial balloon dilatation with up sizing balloon was given at the SB Ostial to expand the struts. A sequential kissing balloon dilatation was also given with non compliant (NC) balloons of suitable size at 14 atm and simultaneous final kissing done at 10 atm. A stent boost done with kissing balloon in place. Check injections given to check stent apposition and TIMI III flow.

Conclusion: The stent boost assisted modified Minicrush technique, study of 50 patients with one year follow-up we observed no incidence of acute vessel closure or stent thrombosis. The 6% percent of these patients were required repeat revascularization at one year follow up. Stent boost is a cost effective tool to visualize exact SB stent strut position at places where other imaging modalities IVUS, OCT are unavailable. Thus the stent boost assisted Minicrush technique looks to be promising, easy to adapt for treating bifurcation lesions.

TCTAP A-039
Could Novel Bio-SYNTAX Score Predict Mortality in Patients Undergoing Percutaneous Coronary Intervention with Left Main Coronary Artery Bifurcation Lesions?
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Background: Several studies reported that clinical SYNTAX (Synergy between Percutaneous Coronary Intervention (PCI) with TAXUS and Cardiac Surgery) score (CSS) could provide prognostic information in addition to original SS. However, limited data is available about the prognostic value of N-terminal pro-B type natriuretic peptide (NT-proBNP) in patients with left main (LM) coronary artery bifurcation lesions. The aim of this study is to assess whether Bio-CSS would improve the ability to predict mortality compared with CSS in patients undergoing unprotected LM PCI.

Methods: Between June 2006 and December 2012, 225 patients (170 men; mean age = 65.2±10.9 year-old) underwent unprotected LM stenting were analyzed in this study. CSS was calculated by multiplying the SS to an ACEF score (age/left ventricular ejection fraction + 1 if serum creatinine >2mg/dL). Bio-CSS was calculated by multiplying NT-proBNP score (1 for <100 pg/mL, 2 for 100 - <1000 pg/mL, 3 for >1000 pg/mL) to the SS.

Conclusion: The bio-CSS score was significantly higher than the CSS score in predicting the outcome of patients with LM bifurcation PCI.