3-VD (46.5 %), whereas 52.9 % had 1- or 2-VD. Procedural Characteristics - Predilatation (MB) was done in 72.4 % (SB 86.7 %), a DEB for the MB was used in 28.6 % (SB 71.4 %). Stenting of the MB was done in 63.2 % (DES 58.2 %, BMS 5.1 %) and stenting of the SB was performed in 12.2 % (DES 11.2 %, BMS 1.0 %). Final kissing was done in 65.3 %, mostly using two DEB (48.0 %). FU Data - MACE in hospital was seen in 6.1 % (STEMI 2.0 %, NSTEMI 1.0 %, TLR 3.1 %), during FU cardiac death in 2.6 %, an ACS in 2.6 %, CABG 1.3 %, TLR 0 % and TVR 13.2 %.

CONCLUSION DEB could be safely used for the treatment of bifurcation lesion with an optimal rate of TLR.

CRT-200.07

Spotty Calcium Location Plays a Key Role in Human Plaque Instability: Insights from Studies In Vivo from Cardiac Arrest Survivors and In Vitro from Autopsied Sudden Cardiac Death Victims

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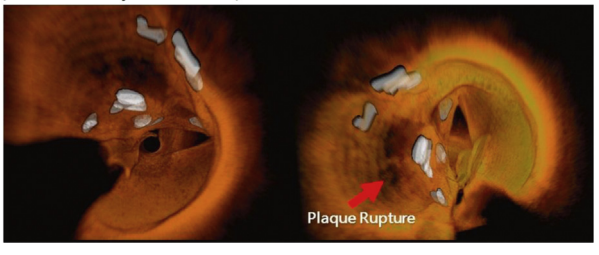
BACKGROUND We previously reported that different coronary calcification patterns were associated with different pathological and clinical features (JACC, 2014, 63:2220-2233; Eur Heart J, 2012, 33: 372-383). However, the exact mechanisms underlying the association between calcification patterns and acute coronary event risks remain elusive.

METHODS Coronary calcification was assessed in vivo (62 cardiac arrest survivors with documented coronary artery disease and 30 patients with a normal coronary angiogram) and ex vivo [52 autopsied sudden cardiac death (SCD) victims and 30 non-SCD patients] using IVUS and OCT. 3D-OCT coronary reconstruction was performed for precisely showing the number and distribution of calcification (Figure).

RESULTS In in vivo study, spotty calcification was the main calcification pattern within culprit plaques in cardiac arrest survivors. Spotty calcification in cardiac arrest survivors was mostly in superficial location, which vs. that of deep location was associated with more positive remodeling, TCFA, and plaque rupture. Spotty calcium in superficial (but not deep) location correlated negatively with lipid core arc, and positively with cap thickness on OCT. In ex vivo study, patients died of SCD had more spotty calcification and more superficial spotty calcification compared with those who died of non-SCD causes.Pathological analyses showed that spotty calcium, when in superficial location, correlated with greater inflammatory burden and decreased collagen synthesis within human coronary plaques. Moreover, spotty calcium in superficial vs. deep location was associated with more TCFA and plaque rupture.

CONCLUSION Spotty calcification in superficial, but not deep, location is a marker of vulnerable plaque in cardiac arrest survivors and autopsied SCD victims.

Figure. An Example of Multiple Superficial Spotty Calcium arround the Plaque Rupture (3D- OCT coronary reconstruction)



CRT-200.08

Previous Cerebrovascular Disease Is the Most Important Independent Predictor of Clinical Outcomes in Elderly Patients Who Undergo Percutaneous Coronary Interventions. The Nobori Biolimus-eluting Stent Prospective Multicenter 1-year Observational Registry in South Korea

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BACKGROUND Percutaneous coronary intervention (PCI) is increasingly being performed on elderly patients with acceptable periprocedural outcomes and long-term survival rates. Selecting the appropriate patients for revascularization is more important for elderly people. The aim of this study is to determine the most important independent risk factor that could predict clinical outcomes in elderly patients who undergo PCI.

METHODS A total of 1884 consecutive patients who underwent PCI were evaluated. The enrolled patients were divided into 2 groups according to age, namely, younger patients who were aged < 75 years and elderly patients who were aged ≥ 75 years. The study's primary end point was the occurrence of major adverse cardiac or cerebrovascular events (MACCE) at 1 year.

RESULTS The 1-year cumulative incidence of MACCE was 4.9%, and it was 3.8% in the younger patient group and 9.9% in the elderly patient group ($P < 0.001$). Forty-nine patients (2.6%) died during the follow-up period. The 1-year mortality rate was 1.5% (23 patients) for the younger patient group and 7.1% (26 patients) for the elderly patient group ($P < 0.001$). Previous cerebrovascular disease was significantly correlated with MACCE at 1 year in elderly patients treated with PCI (HR, 3.079; 95% CI, 1.276-7.426, $P = 0.012$).

CONCLUSION Previous cerebrovascular disease is the most important independent predictor of the occurrence of MACCE in elderly patients 1 year after PCI.

CRT-200.09

Grain Domains on Surface of Red Blood Cells as Mirror of Nanotoxicity in Patients Underwent Plasmonic Photothermal Therapy of Atherosclerosis With Silica-Gold Nanoparticles: Subanalysis of NANOM-FIM Trial

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BACKGROUND Our NANOM FIM trial (NCT01270139) documented per cent atheroma volume reduction up to 30.7%. This subanalysis conducted to examine cytotoxicity of nanoparticles (NP) in red blood cells (RBC).

METHODS The observational three arms NANOM FIM trial assessed the safety and feasibility of plasmonic photothermal therapy (PPTT) with silica-gold NP. The surface of RBC was tested (n=108) ex vivo with atomic force microscopy (AFM).

RESULTS The analysis of AFM 2D- and 3D-images of RBC demonstrates growing number of domains (from 0.34 to 6.12 in 0.1 g/L NP blood vs from 0.22 to 1.12 per cell in blood with saline respectively, $p<0.05$) during first 72 hours after infusion of NP without hemolysis. The domains on the RBC membrane manifested as figures of endocytosis (E) in all cases and direct penetration (DP) in 16.7% cells. These grain structures appear due to perturbation of the macromolecular complex contributed to remodeling of the RBC surface as a part of the inward vesiculation process with the certain concentration-dependent effect. No significant differences in the level of any biochemical markers or signs of nanotoxicity at the target organs (blood, heart, kidney, spleen, brain, etc.) at the 12-month follow-up were found in patients.

CONCLUSION The NANOM-FIM trial demonstrates high safety of the selected nanotechnologies. The screening topological AFM investigation of the RBC membranes holds a potential to be used as a routine method for express assessment of nanotoxicity in real clinical practice.