1159.0) vs 232.29 (52.0 to 1307.0) Hounsfield Units; P=.033). Median local plaque volume was higher in lesions with complex PCI compared to those with non-complex interventions with a mean of 475.07 (92.0 to 1229.0) mm3 Vs 270.24 (69.0 to 824.0) mm3. The plaque area was found statistically significantly higher in complex PCI procedures over the non complex ones with the mean plaque area in the complex procedures was19.40 ± 14.61 mm2 and in the non complex ones, it was 11.24 ± 7.94 mm2 with the P value = 0.011. Complex PCI had a higher rate of calcified plaques (27.9% vs. 5.9%; P=.046).

CONCLUSION pre-procedural CCTA parameters indicate complexity of PCI. Thus, we suggest that in patients with suspected complex coronary anatomy, prior CCTA adds important complementary information to coronary angiography for planning subsequent PCI strategy.

CRT-150

Usefullness of Coronary Extension Systems (Mother Child Guide Liner and Heart Trail Catheters) in Complex Coronary Interventions

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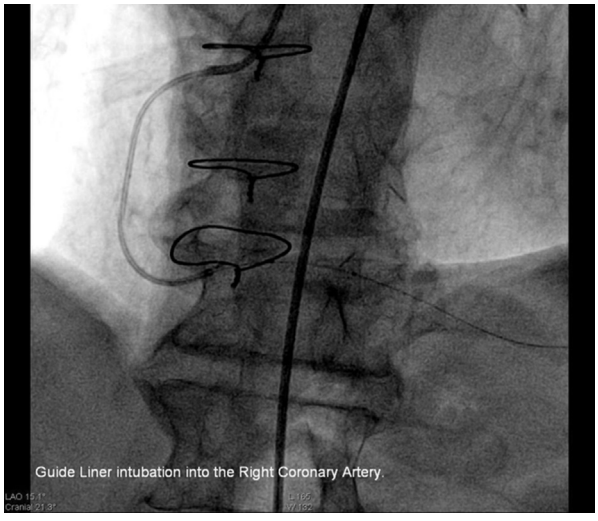
Issste 20 Noviembre, Mexico City, Mexico

INTRODUCTION Several techniques have been used to deliver stents in the presence of complex coronary anatomies. Some examples are the buddy wire technique, high support guidewires and deep intubation of the guiding catheter. If these techniques are not successful there are few other resources that the inteventionalist can use to adequately treat these complex lesions. One of these alternatives is the use of coronary extension systems like the mother-child catheter technique (5 in 6 catheters). There are few studies that evaluate in the real world practice the usefulness of these devices.

METHODS During the time period since January 2012 to October 2014 we enrolled 63 consecutive patients in which we used coronary extension systems (Guideliner or Heart-trail II catheters) to aid in coronary intervention. We recorded the angiographic technical variables related to the use and performance of these coronary extension systems.

RESULTS Seventy two lesions in 63 patients were treated using mother-child catheters. The average age was 65.2+9.7 years. Diabetes was present in 55 (87%) patients. Most of the patients had chronic stable coronary artery disease (57% of the patients). Sixty three Guideliner catheters and 9 Heart-trail II catheters were used. The type C lesion was treated principally. The reason to use the coronary extension systems was: lack of support of the guiding catheter in 59% of the cases and inability to deliver the stent in 84.7% of the cases. Child-Catheter intubation distance into the native coronary artery was 30.5+21.2 mm. The success rate to advance the extension system to deliver the stent into the coronary artery was 90.2%. The most frequent complication seen was coronary artery C type dissection (6.9% of the cases). No deaths related to the use of the extension systems were observed.

CONCLUSIONS Coronary extension systems improve the back-up support necessary to deliver stents in the presence of complex coronary anatomies with a low rate of serious complications.



FFR

CRT-151

Predictive FFR Value After PCI on Long Coronary Lesions

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BACKGROUND There is still a controversy in the treatment of long coronary lesions. Therefore, systemic data on the factors influencing PCI outcomes in the setting of diffuse coronary artery disease is needed. The aim of our study was to evaluate the influence of post procedural FFR on long term outcomes after FFR guided PCI on long coronary lesions.

METHODS A total of 74 consecutive patients with significant (FFR<0.8) coronary artery lesions ≥30 mm in length were included to the prospective study. All patients underwent FFR guided PCI with new generation Biolimus, Everolimus or Zotarolimus eluting stents. 100% angiographic procedure success was achieved. Based on post procedural FFR patients were divided into two groups: FFR≥0.9 (n=26) and FFR<0.9 (n=48). The primary outcome was target vessel revascularization (TVR) at one year. Secondary outcomes included late lumen loss (LLL) and major adverse cardiac events (MACE) at one year. In addition, the regression analysis between post procedural FFR and outcomes at follow-up was performed. The angiographic and FFR follow-up was scheduled at 9 months, clinical follow-up at 12 months after the procedure.

RESULTS The average post procedural FFR in the groups of FFR≥0.9 and FFR<0.9 was 0.94±0.04 and 0.85±0.05 respectively. The baseline clinical characteristics were similar between the two groups including mean age 66.81±8.61 and 65.71±9.95 years (p=0,580), male gender 65.4% and 76.6% (p=0.304), diabetes 19.2% and 23.4% (p=0.680). However, the length of stents needed to cover the lesion was significantly longer (55.17±15.2 vs. 42.15±8.39 mm, p<0,001) and there were more bifurcation lesions [24 (51.1%) vs. 5 (19.2%), p=0,008] in FFR<0.9 group. At follow-up, TVR rate was 4.2% vs. 10.9% (p=0.342), MACE rate 20.8% vs. 21.3% (p=0.965), LLL 0.19±0.43 vs. 0.27±0.41 (p=0.540) in the groups of FFR≥0.9 and FFR<0.9 respectively. On regression analysis there was no statistically significant correlation between post procedural FFR and clinical outcomes at follow-up.

CONCLUSION Longer stent length and bifurcation lesions are associated with lower post procedural FFR values, but FFR after PCI on long coronary lesions has no predictive value on long term clinical outcomes.

CRT-152

Significant Visual-Functional Mismatch Between Coronary Angiography, Fractional Flow Reserve (FFR) and Quantitative Coronary Angiography (QCA)

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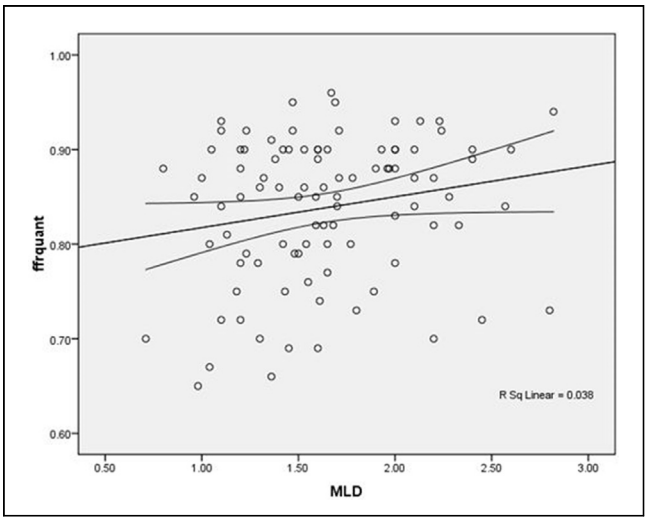
OBJECTIVE Anatomical and functional mismatches are not uncommon in the assessment of coronary lesions. The aim of this study was to identify clinical and lesion specific factors affecting angiographic, anatomical and functional mismatch in intermediate coronary lesions

METHOD In patients who underwent coronary angiography for clinical reason, fractional flow reserve (FFR) and quantitative coronary angiography (QCA) analyses for intermediate stenotic lesions were performed simultaneously. Mismatches between measured values were analyzed.

RESULT Ninety five intermediate lesions were assessed simultaneously by visual angiography, FFR and QCA. Visual-FFR mismatch was found in 40% of the lesions while reverse Visual-FFR mismatch was determined in nearly 14% of the lesions. Mismatch and reverse mismatch between FFR and QCA parameters were observed in 10 % and 23% of the lesions. FFR value was significant in 32% of lesions while visually significant stenosis was shown in 61% of lesions. Among the Visual-FFR reverse mismatch group, the prevalence of culprit lesions within the LAD was significantly higher than other vessels (p value<0.02).

CONCLUSION There were high frequencies of angiographic, QCA and functional mismatches in analyses of intermediate coronary lesions. LAD lesions showed the highest mismatch. Angiographic or QCA estimation of lesion severity has consistently resulted in inappropriate stenting of functionally non-significant lesions or under treatment of significant lesions based on FFR.



LEFT MAIN INTERVENTION

CRT-153

Defining Optimal Stent Overexpansion Strategies for Left Main PCI- Insights from bench testing

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BACKGROUND With improved percutaneous coronary intervention (PCI) techniques, PCI has emerged to be a safe option for revascularization with good long term outcomes in selected patients with unprotected left main coronary artery (uLMCA) lesions. Overexpansion beyond nominal size is a common procedure to ensure adequate stent apposition during left main stenting to improve clinical outcome. However there is limited data concerning the feasibility and safety of aggressive post dilation of metallic stent platforms during left main stenting to achieve apposition and reduce focal underexpansion.

OBJECTIVES The objectives of this study are to investigate if overexpansion can be achieved beyond the recommended stent expansion limit for a 4.0mm metallic stent and to compare different expansion techniques to achieve optimal apposition and study the effect of overexpansion on the mechanical performance of the stent.

METHODS We performed bench testing to measure the effect of overexpansion on the stent performance of thin strut (74μm) 4.0 mm drug eluting platinum chromium stents (DES) (Synergy II™, Boston Scientific, Natwick, MA, USA) in silicon phantom models of 6 mm diameter. We tested the stents in the following 5 models; using a 6.0 mm balloon with Proximal Optimisation Technique (POT) at low (nominal) pressure of 6 atm (Group 1- POT-LP); and rated burst pressure (RBP) of 14 atm (Group 2- POT-RBP); Final Kissing Balloon Dilation (FKBD) methods using relatively undersized ('US') 3.5mm and 4.0mm balloons at RBP (Group 3 FKBD-US); FKBD using adequately sized 4.0mm and 5.0mm balloons at low pressure (Group 4- FKBD-LP) and finally at RBP (Group 5- FKBD- RBP).

RESULTS The platinum chromium stents 4.0mm stent reached an outer diameter of only 5.1mm by using a 6.0 mm balloon at 6 atm. Further postdilatation with higher pressures (14 atm) resulted in a stent outer diameter of 6.0mm, demonstrating a safety margin above the designated expansion limit. Simultaneous kissing with undersized balloon diameters resulted in a high ellipticity index and importantly malapposition. Using correctly sized balloons, stent area improved but ellipticity remained and malapposition was less but still higher compared to POT-LP and POT-RBP.

CONCLUSIONS Our study shows that the thin strut platinum chromium 4.0mm stents can be safely expanded with the use of POT beyond the overexpansion limit of 5.75mm with optimal stent apposition and performance. Proximal optimisation using adequately sized balloons and high pressure is advised to achieve optimal outcome in left main stenting.

CRT-154

Intravascular Ultrasound Guided Left Main Interventions: Meta-analysis

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BACKGROUND Interventions of the left main coronary artery are complex and require high degree of technical skills. Intravascular ultrasound (IVUS) can aid interventions of the left main coronary artery. We performed this meta-analysis to assess the efficacy of use of IVUS compared to angiographic-guided PCI.

METHODS Electronic search of PubMed, EBSCO and Google Scholar databases was done to identify studies of IVUS guided left main interventions. Pooled meta-analysis of major adverse cardiac events (MACE), cardiac death, myocardial infarction (MI), target vessel revascularization (TVR), target lesion revascularization (TLR) and stent thrombosis was performed using Comprehensive Meta-analysis 2 software. Mantel-Haenszel random effects model was used to compute the odds ratio (OR) for the above outcomes with and without the use of IVUS.

RESULTS A total of 4 studies with 2607 patients were identified that compared left main interventions done using with and without IVUS guidance. Interventions were done using IVUS in 1576 and angiographic-guided interventions were performed in 1031 patients. The risk of MACE with the use of IVUS guided intervention was 0.64 (95% CI: 0.49 - 0.83). The use of IVUS decreased cardiovascular death (OR 0.37; 95% CI: 0.23 -0.6) and MI (OR 0.69; 95% CI: 0.51 - 0.92). IVUS use in left main intervention had a trend towards lower TVR (OR 0.66; 95% CI: 0.27 - 2.49), TLR (OR 0.74; 95% CI 0.5 - 1.09) and stent thrombosis (OR 0.26; 0.07 - 1.04).

CONCLUSION The use of IVUS for left main interventions is associated with 36% lower risk of MACE, 31% lower risk of repeat MI and 63% lower risk of cardiovascular death. The above findings suggest major outcomes benefit with the use of IVUS for left main interventions.

Outcome	Odd's ratio	95% Lower Limit	95% Upper Limit
MACE	0.64	0.49	0.83
MI	0.69	0.51	0.92
Cardiac Death	0.37	0.23	0.6
TVR	0.66	0.27	2.49
TLR	0.74	0.5	1.09
Stent thrombosis	0.26	0.07	1.04

OTHER

CRT-155

Bioflow-III an All Comers Registry with a Sirolimus Eluting Stent- One Year Safety and Performance Results

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OBJECTIVE he aim of this registry is to evaluate the clinical performance of a new generation Sirolimus eluting stent system (Orsiro) in a large patient population in standard clinical care.

The Orsiro is a unique hybrid solution that combines passive and active components. PROBIO passive coating encapsulates the stent and minimizes interaction between the metal stent and surrounding tissue. BIOlute active coating contains a highly biocompatible and biodegradable polymer.

METHODS Between August 2011 and March 2012, 1,356 subjects were enrolled consecutively in this international, multicentric BIOFLOW-III all-comers registry using the Orsiro Sirolimus eluting stent.

Primary endpoint is Target Lesion Failure (TLF) at twelve months follow-up. Prespecified subgroups were diabetes, small vessels, chronic total occlusion and