CARINA SHIFT AND PLAQUE SHIFT IN THE SIDE BRANCH OSTIAL COMPROMISE DURING THE BIFURCATION STENTING: VOLUMETRIC INTRAVASCULAR ULTRASOUND ANALYSIS OF BOTH MAIN AND SIDE BRANCHES

i2 Oral Contributions
Ernest N. Morial Convention Center, Room 353
Monday, April 04, 2011, 2:00 p.m.-2:14 p.m.

Session Title: Left Main and Bifurcation
Abstract Category: 8. PCI - Bifurcations
Presentation Number: 2907-5

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Background: Carina shift was thought a possible mechanism of side branch(SB) ostial compromise after main vessel stenting, based on the indirect evidence of main vessel. We aimed to investigate the mechanism by direct IVUS analysis of both SB and main vessel.

Results: We examined IVUS images of 51 bifurcation lesions with SB ostial compromise after main vessel stenting and without SB angioplasty. Three 5-mm interested segments were analyzed before and after stenting; parent vessel ostium (PVo), main branch ostium (MBo) and side branch ostium (SBo). SBo compromise was defined as a SBo lumen volume decrease, SBo carina shift as a SBo vessel volume decrease and SBo plaque shift as a SBo plaque volume increase.

Results: After stenting, the vessel and lumen volume increased and plaque volume decreased both in the PVo and MVo. And in the SBo, there was only a little plaque volume increase with vessel and lumen volume decrease. The SBo compromise was correlated with SBo carina shift ($r=0.966$, $p<0.001$), but not with SBo plaque shift ($r=0.022$, $p=NS$). SBo carina shift, which contributed 70.4% of SBo compromise, was correlated with vessel volume change of MBo ($r=0.442$, $p=0.001$), but not PVo ($r=0.027$, $p=NS$). SBo plaque shift was correlated with plaque volume change of PVo ($r=-0.483$, $p=0.001$), but not MBo ($r=0.020$, $p=NS$).

Conclusions: Carina shift is the major mechanism of side branch compromise after main vessel stenting in the coronary bifurcation lesion. Increased plaque volume in SBo seems to be mostly shifted from the PVo.