

A complex bifurcated lesion in the LAD addressed with IKAZUCHI ZERO™ & RAIDEN3™ PTCA Balloons



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A 72 y-o gentleman was referred to our institution for stable Canadian cardiovascular Society (CCS) grade 2 angina and moderate left ventricular systolic dysfunction (EF 45%). Computed tomography CT scan showed double vessel coronary artery disease with a significant left anterior descending artery (LAD) stenosis and total occlusion of a hypoplastic right coronary artery. Coronary angiogram confirmed a long LAD stenosis involving the LAD-first diagonal branch bifurcation (Medina class 1,1,1).

[FIG 1] Functional evaluation with instant-wave free flow reserve (iFR) and fractional flow reserve (FFR) was performed showing critical stenosis (iFR = 0,89, FFR = 0,75).

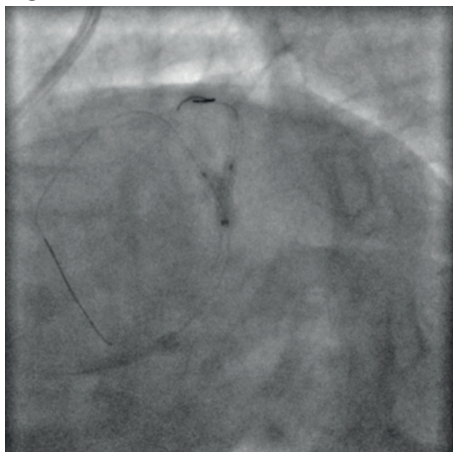
Ad hoc PCI was performed via transradial approach with a 7F XB3.5 guiding catheter (Cordis VISTA BRITE TIP™ Guiding Catheter) and a double kissing minicrush (DKmC) was planned. After wiring and predilatation of both branches a 2.5x18 mm DES (Ultimaster Tansei Terumo) was deployed on the diagonal branch with minimal protrusion and a non-compliant 3.5x15 mm balloon (RAIDEN3™ Non-Compliant PTCA Balloon Kaneka Corporation) was inflated on the LAD to crush the proximal struts of the diagonal branch stent. After rewiring, a first kissing balloon inflation (KBI) was performed using two non-compliant balloons (RAIDEN3™ Non-Compliant PTCA Balloon Kaneka Corporation 2.5 and 3.5 mm) **[FIG 2]**.

Fig 1



Long LAD - first diagonal branch calcified stenosis, Medina 1,1,1

Fig 2



First KBI after diagonal DES deployment, crushing and rewiring

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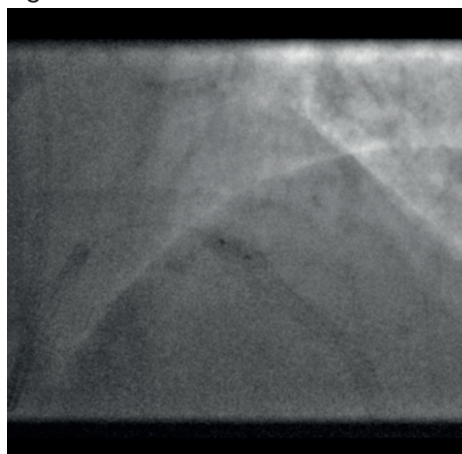


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Two overlapping DES (3.5x38 mm and 3.5x38 Ultimaster Tansei Terumo) were deployed on mid and proximal LAD, proximal optimization technique (POT) was done with a non-compliant 4.0 balloon (RAIDEN3™ Non-Compliant PTCA Balloon Kaneka Corporation) **[FIG 3]** and rewiring of the diagonal branch was easily obtained with a Sion (Asahi) guidewire. A 2.0 semi-compliant balloon could not cross the diagonal branch ostium through the three-layer stent struts **[FIG 4]**.

A 1.5x15 mm semi-compliant balloon (IKAZUCHI ZERO™ Semi-Compliant PTCA Balloon 1.5x15 mm, Kaneka Corporation) was then selected and this one was able to cross the diagonal branch ostium and could be effectively inflated at the diagonal branch ostium **[FIG 5]**. Post dilatation of the stents with NC balloons and KBI was then performed with two NC balloons (RAIDEN3™ Non-Compliant PTCA Balloon Kaneka Corporation 2.5 and 3.5 mm) **[FIG 6]**. A final POT with the previously used 4.0 NC RAIDEN3™ Non-Compliant PTCA Balloon balloon was performed. Good final angiographic result was finally achieved. **[FIG 7]**

Fig 3



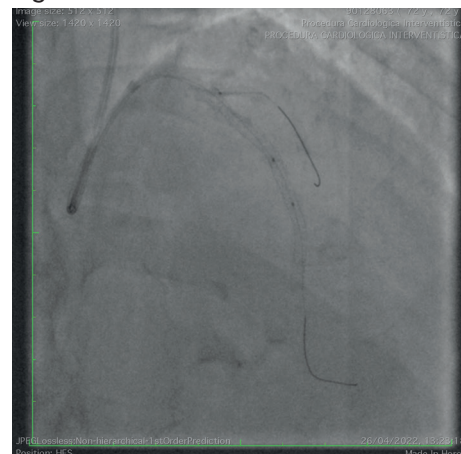
POT with 4.0 NC balloon (RAIDEN3™ Non-Compliant PTCA Balloon Kaneka Corporation)

Fig 4



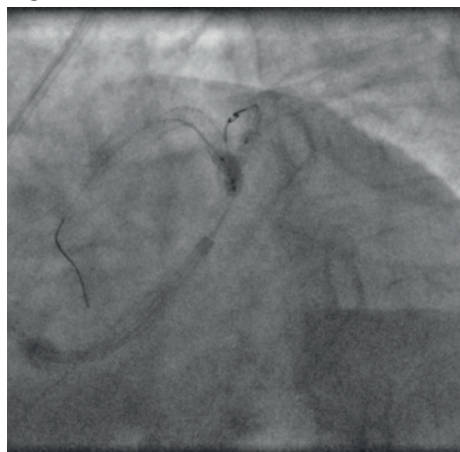
A 2.0mm semi-compliant balloon (Sapphire) could not cross the diagonal branch ostium

Fig 5



Effective diagonal branch crossing and dilatation with a 1.5mm IKAZUCHI ZERO™ Semi-Compliant PTCA Balloon

Fig 6



Second KBI

Fig 7



Final result

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