

C002

Failure to optimize a Culotte stenting in a RCA bifurcation lesion: the use of Optimal Coherence Tomography (OCT) in managing the problem

This was a 62 year old male who presented with acute coronary syndrome.

He presented with on and off resting angina symptom for 1 day

Physical examination showed BP 120/70mmHg, with HR 90/min. There was no elevated JVP or ankle edema. Heart examination showed dual heart sound with no murmur. Chest auscultation showed clear lung.

CXR was clear

ECG showed ST depression over leads II, III and aVF

Echocardiogram showed hypokinesia over inferior segment.

Blood test showed normal complete blood count, liver, renal function and electrolytes

Coronary angiogram showed minor lesion over proximal to mid right coronary artery, and severe distal RCA bifurcation lesion over dRCA/PL/PDA (0, 1, 1)

Left coronary angiogram showed minor lesion over left main stem

Left anterior descending artery got long a diffuse moderate lesion over ostial to mid segment and a moderate lesion over distal segment

Left circumflex artery got a severe bifurcation lesion over proximal segment (0, 1, 1), a severe trifurcation lesion over the first obtuse marginal, and a moderate lesion over distal segment.

We have decided on PCI over distal RCA bifurcation lesion by Culotte technique

PL and PDA were wired with BMW Universal II and Sion Blue, and the bifurcation lesion was pre-dilated with Sapphire 2.0/15. PL was stented with Orsiro 2.25/26, and post-dilated with NC Euphora 2.25/8.

The PDA was opened with Ikazuchi 1.5/15 and Sapphire 2.0/15, and was then stented with Orsiro 2.25/22, followed by post-dilatation with NC Euphora 2.25/15

Proximal optimization was done with Fortis 3.0/8

PL stent was rewired with Sion and planned to crush the PDA stent, however, balloons were failed to cross the stent strut even with the use of Ikazuchi 1.5/15 and Tazunna 1.25/15

OCT was done, which showed that the Sion wire was trapped with stent strut, and there is a stent strut opening next to it. dRCA stent malapposition was also seen.

Further POT was done with NC Euphora 3.25/8, and then PL was rewired with Sion blue, with entrance next to the original Sion wire. Then the stent strut is successfully opened by Sapphire 1.0/15 and then 1.5 balloon

Further post-dilatation was performed over PL and PDA by using NC Trek 2.25/15 and NC Quantum 2.25/15, with kissing done with the same balloons

Final OCT showed good stent apposition.

This case showed that suboptimal rewiring of stent strut could lead to failure in passing balloon for stent optimization during bifurcation stenting. It illustrated the beauty of OCT in identifying the underlying mechanism and guiding our treatment strategy in this condition.