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Expanding Near 20 year Old Taxus Stents with new Lithix IVL Balloon

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1. Coronary artery disease
   Angina
   PCI 28/11/2006 - Prox. LAD & Mid-LAD
   - Taxus 2.75 x 20 mm, 2.5 x 24 mm
   Well post-PCI
   Recurrence of angina
   PCI 21/12/2017 with Prox. RCA with Cre8 Evo 3.0 x 20 mm
   Well since 1 wk ago
   Severe pain
   Though that it was reflux
   Improved with Gaviscon
   But pain recurred last 2-3 nights
   ECG - New Inferior MI
   Raised Biomarkers
2. Dyslipidaemia - 2006
3. Hypertension - 2006
4. Pre-Diabetes
5. TB Hip - age 10 yrs
   Hip replacement

CORONARY ANGIOGRAM AND PCI REPORT 22/4/25

Diagnostic catheter: Optitorque 5fr

LMS : Mild to moderate distal stenosis

LAD : Severe proximal stenosis
Severe diffuse ISR proximal to mid stent
- Calcified, neo-atherosclerosis with certain segments involving 360 degree arc on IVUS
Myocardial bridging distal

LCX : Non-dominant vessel
Moderate to severe ostial stenosis

RCA : Dominant vessel
Moderate ostial stenosis
Proximal stent patent

Occluded distal with contrast pooling prior to occlusion

* Severe, diffuse and calcified PL branch upon opening occlusion

Collaterals to distal RCA branches from left system

PCI PROCEDURE SUMMARY:

Guide Catheter : JR 3.5 6Fr, AL1 6Fr, CLS 3.5 6Fr

Guide Wire : Runthrough NS,

Microcatheters : Asahi Caravel

Others : Guideplus II ST EL, Opticross IVUS HD

PCI to RCA and PL Branch

Unable to engage with JR 3.5 6F

Engaged well with AL1 6F ? tend to dive deep, but catheter can be easily controlled

MC Caravel with RT floppy

Able to cross easily into long PL branch

Ballooned with Emerge 2.0 x 30 mm from occlusion site up to PL branch

IVUS run done

Organized thrombus in distal RCA with minimal plaque

Severe calcified disease in PL branch

Encountered a lot of problem fixing outflow in PL branch

Emerge 2.5 x 15 mm balloon will not pass into PL branch, thus ballooned distal RCA only

Used Guideplus II ST EL with cutting balloon Revoedge 2.5 x 15 mm

- Same issue as balloon will not pass into PL branch. Ballooned distal RCA only

Used NC Emerge 2.25 x 15 mm - burst when inflated up to 24 atm

Reused Revoedge 2.5 x 15 mm - also burst when inflated up to 14 atm

Distal RCA ballooned with NC Emerge 4.0 x 20 mm

- thrombus embolized down PL branch, but flow still present

Ballooned PL branch and thrombus with Sapphire 3 2.0 x 20 mm

Bigger balloon NC Emerge 2.5 x 20 mm will not pass despite increased GC backup and deep engagement of Guideplus

Abandoned further attempt at PCI of vessel due to lack of further benefit

FINAL RESULTS of RCA and PL branch

Previous occlusion site opened with minimal residual organized thrombus

PL branch partially open with residual organized thrombus

TIMI III flow down all smaller branches as well

PCI to LMS, LAD
GC CLS 3.5

Ballooned proximal LAD with Sapphire 3 2.0 x 20 mm

IVUS run performed

Used Lithix HC IVL 3.5 x 14 mm
multiple inflations crawling slowly up to distal stent edge done, maximum pressure 20 atm
When Lithix could not advance, Sapphire 3 2.0 x 20 mm and NC Emerge 2.5 x 20 mm were used to open downstream tract

After almost 1 hour of ballooning, preparation finally looked satisfactory
Repeat IVUS showed significant expansion of lumen and cracked calcium across all segments
Further ballooned with NC Sapphire 24 3.5 x 18 mm up to maximum of 30 atm

Proximal to mid LAD DCB Sequent Please 3.5 x 40 mm @ 8 atm for 1 minute
LMS to LAD DCB Sequent Please 4.0 x 30 mm @ 8 atm for 45 seconds

Final IVUS performed

FINAL RESULTS of LAD
LMS - treated with DCB - good
Mild residual distal stenosis
LAD - good
DCB treated segments - good results
Residual stenosis in ostium

MLA
Ostial LAD - pre 6.22 mm2, post 7.92 mm2
Tightest proximal ISR (6 mm from ostium) - pre 1.78 mm2, post 6.91 mm2
Tightest Mid ISR (24 mm from ostium) - pre 3.12 mm2, post 7.16 mm2
Distal stent edge ISR (45 mm from ostium) - pre 3.73 mm2, post 6.63 mm2

TIMI III flow
LCx - flow is preserved

Contrast volume : 150 ml
Fluoroscopy Time : 37 min 53 sec
Radiation Dose : 4007 mGy