

1014 **Crash-to-Cure: IABP-Backed DK-Crush + Culotte Salvage of Sequential Bifurcations after RCA-Triggered Shock in an ESRD Diabetic**

Yen-yu Hsiao¹, I Li Su¹

¹Internal Medicine, Antai Medical Care Cooperation Antai Tian-sheng Memorial Hospital, Taiwan, R.O.C.

[Target Lesion]

55-year-old haemodialysis patient with poorly controlled diabetes, presenting with Killip III NSTEMI (Type IVa, transient STE).

- Planned lesion: distal LAD/DB1 bifurcation, Medina 1.1.1, diffuse BMS ISR, heavy concentric calcium.
- Unplanned lesion: proximal LM/LAD/LCX bifurcation caused by LCX-OS plaque shift during the same procedure, Medina 1.1.1, severe ISR at proximal LAD.

SYNTAX score 35; baseline RCA: PL 30-40 % stenosis, TIMI III flow.

Echocardiography: LVEDD 52 mm, concentric LVH, LVEF 35 %, grade II diastolic dysfunction (E/E' 41), mild MR/TR, minimal pericardial effusion.

[Strategy]

Phase 1 – Planned distal bifurcation (LAD/DB1)

- IVUS-guided calcium modification with cutting balloon 3.5 × 10 mm and NC balloons ≤22 atm.
- DK-Crush: BMS(Multi-link) 2.5 × 15 mm to DB1, double kissing, POT 4.0 mm.
- ISR repair: BMS(WALTZ) 3.5 × 18 mm (prox to mid-LAD).
- Drug-eluting balloon 3.5 × 40 mm (Selution) from LAD-OS to mid-LAD for ISR prevention.

Intervening event – RCA engagement-triggered haemodynamic collapse

- During diagnostic engagement of RCA, flow dropped to TIMI I–II with sudden hypotension.
- Immediate IABP (1 : 1) and vasopressors restored stability.

Phase 2 – Bail-out proximal bifurcation after LCX-OS plaque shift

- Re-engaged LM; IVUS confirmed new LCX-OS 70–80 % stenosis (plaque shift).
- Culotte: BMS(WALTZ) 3.5 × 18 mm from LM → LCX; final kissing 4.0/2.5 mm.

DAPT and systemic heparin were maintained throughout.

[Final Result]

Angiography: TIMI III flow in LM-LAD-LCX and RCA; residual stenosis < 5 %.

IVUS: minimal-stent-area >10.2 mm² (LM) / >7.4 mm² (LAD); no mal-apposition.

IABP removed Day 3; vasopressors stopped within 24 h.

GI bleed (gastric ulcer/haemangioma) managed with transfusion + PPI.

Discharged Day 6 on DAPT + GDMT; 30-day follow-up free of MACE, NYHA II.

[Learning Point]

- A planned IVUS-guided DK-Crush for distal bifurcation can be complicated by plaque-shift-induced proximal bifurcation; immediate Culotte repair is feasible in the same session.
- RCA engagement can precipitate haemodynamic collapse even without severe RCA disease; rapid deployment of IABP provides a reliable bridge when advanced MCS is unavailable.
- Positioning a drug-eluting balloon over multiple metallic layers may reduce recurrent ISR in long, calcified segments.