SOLACI SOCIME'25
MEXICO CITY

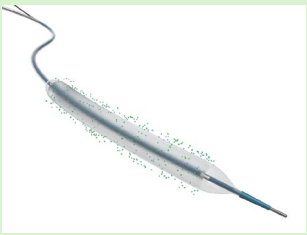
DRUG-COATED BALLOON ANGIOPLASTY FOR IN-STENT RESTENOSIS IN A UNIQUE-VESSEL DISEASE WITH MECHANICAL SUPPORT

DRA. GELA PIMENTEL MORALES, DR. ADRIÁN JIMÉNEZ GONZÁLEZ ** , DR. JOEL ESTRADA GALLEGOS***, DR. OSCAR MILLAN ITURBE*, DR. JAIME ALFONSO SANTIAGO HERNÁNDEZ*, DRA. BELINDA GONZÁLEZ DÍAZ*, DR. JHONATHAN URIBE GONZÁLEZ*, DR. JOSE EDER JAIMES HERNÁNDEZ*, DR JONATHAN ZAMUDIO LÓPEZ*, DR SILVESTRE MONTOYA GUERRERO*, DR. EFRAÍN ARIZMENDI URIBE****, DR. GUILLERMO SATURNO CHIU*****. HOSPITAL DE CARDIOLOGÍA CENTRO MÉDICO NACIONAL SIGLO XXI.*

*Jefe de hemodinamia de Hospital de Cardiología CMN Siglo XXI
**Médico adscrito del servicio del hemodinamia
*** Médico en adiestramiento de cardiología intervencionista
**** Jefe de atención medica del IMSS
***** Director del Hospital de Cardiología CMN Siglo XXI

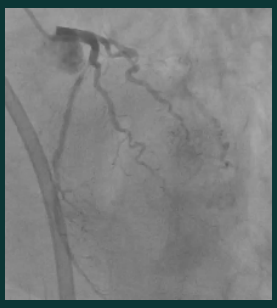
INTRODUCTION

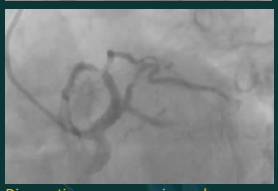
"Local drug delivery achieves:
→ 10-100x tissue concentration
→ 60% less hyperplasia vs BMS
→ 50% TLR reduction
Platform selection depends on lesion/comorbidity profile."



CLINICAL CASE

A 59-year-old female with a medical history of hypertension, diabetes mellitus, and chronic kidney disease (CKD KDIGO stage 5). Her cardiovascular history includes a non-ST-elevation myocardial infarction (NSTEMI) in 2022, treated with percutaneous coronary intervention (PCI) involving the placement of a 2.75 x 43 mm zotarolimus-eluting stent to the mid-segment of the left anterior descending (LAD) artery. She was discharged with a left ventricular ejection fraction (LVEF) of 34%. Admision diagnosis: non-ST-elevation myocardial infarction (NSTEMI) and persistent angina, prompting urgent diagnostic coronary angiography.





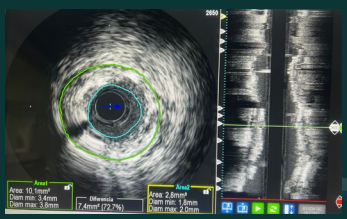
Diagnostic coronary angiography

DIAGNOSTIC CORONARY ANGIOGRAPHY

Multi-Vessel Coronary Artery Disease (LAD, LCx, RCA)
LAD: In-stent restenosis Mehran II
LCx: Proximal segment chronic total occlusion (CTO)
RCA: Mid segment CTO
Left Ventricular Assessment: hypokinesia of the anterolateral, apical, inferobasal, and inferior segments. LVEF 35%, LVEDP 10 mmHg.
Giving the findings, urgent percutaneous coronary intervention (PCI) was therefore performed on LAD

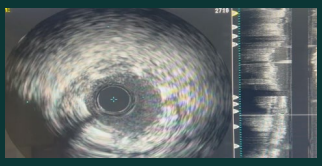
HIGH RISK LAD INTERVENTION

An intra-aortic balloon pump (IABP) was inserted via the right femoral arterial access, with a temporary pacing wire (TPW) placed through the right femoral venous access. Predilatation was performed using a 3.0 × 20 mm semi-compliant balloon at the site of maximal stenosis in the LAD, followed by IVUS interrogation.

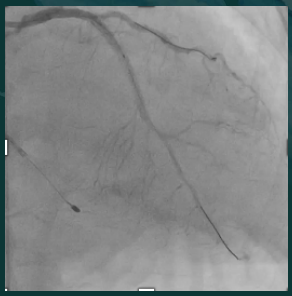


IVUS assessment prior to angioplasty

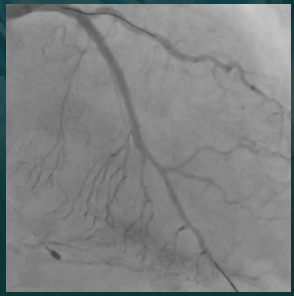
Intravascular ultrasound (IVUS) revealed neointimal hyperplasia with mild stent underexpansion in the mid-segment as the mechanism of in-stent restenosis.
Drug-coated balloon angioplasty was performed. A 3.5 × 20 mm NC balloon was advanced to the mid-stent segment and inflated at high pressure. Subsequently, a 3.5 × 30 mm drug-coated balloon was positioned and inflated to nominal pressure for 60 seconds. Final angiography demonstrated good luminal gain with TIMI 3 flow and TMP grade 3.



IVUS assessment after angioplasty



Angiography with a DEB in the LAD.



Final coronary angiographic