LONG-TERM CLINICAL OUTCOMES AFTER REPEAT DRUG-ELUTING STENT IMPLANTATION FOR IN DRUG-ELUTING STENT RESTENOSIS.

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Background and Objectives

Despite major advances in percutaneous coronary interventions, in-stent restenosis remains a clinical problem and represents a therapeutic challenge, even in the Drug-Eluting Stent (DES) era. The “DES sandwich” technique (stent within a stent) has been applied; however data is limited regarding its long-term results.

We sought to evaluate the long-term clinical outcomes after treatment of DES in-stent restenosis (ISR) with repeat DES implantation in a 'real world' setting.

Materials and Methods

We retrospectively identified and analysed clinical and angiographic data from 49 patients previously treated with DESs who underwent repeat PCI for ISR within a DES, between June 2004 and March 2010. In-stent restenosis was defined, by visual assessment, as a luminal stenosis >50% within the stent or within 5 mm of its edges.

We recorded the occurrence of major adverse cardiac events (MACE), defined as death from all causes, myocardial infarction (MI), or target lesion revascularization (TLR).

Results

Forty nine consecutive patients with 50 restenotic lesions (previously treated with Taxus 48%, Cypher 24%, Endeavor 22%, Promus 6%) underwent PCI using another DES (Cypher 54%, Promus 38%, Taxus 6%, Endeavor 2%).

The mean time from PCI to detection of ISR was 14.1 ± 7.3 months (range 3-38 months).

Baseline characteristics	
Restenotic lesions	50
Clinical Characteristics	
Mean Age ± StDev (years)	61.8±10 (Range: 33 to 76)
Men (%)	81.6
Diabetes Mellitus (%)	38.7
Dyslipidemia (%)	28.6
Current smokers (%)	10.2
Previous CABG	18.4

Angiographic data	
Pattern of restenosis	
Focal (%)	50
Diffuse (%)	36
Total occlusion (%)	14
Vessel treated	
Left Anterior Descending (%)	50
Right Coronary Artery (%)	22
Circumflex (%)	22
Ramus Intermediate (%)	2
Saphenous Vein Graft	4

PCI Data	
Number of DESs implanted per patient (Average±StDev)	1.41±0.76 / Range: 1 to 4
DES Diameter (mm)	Mean±StDev: 3.0±0.3 / Range: 2.25 to 3.5
DES Length (mm)	Mean±StDev:32.9±21.2.8 / Range: 12 to 99
Post - dilation (% of the cases)	98

In-Hospital Clinical Outcomes

Procedural success rate: 100%

- **In-hospital MACEs: 0**

Long-Term Clinical Outcomes

At the end of a mean follow-up period of 33.7 ± 19.9 months (range 6-75 months), 43 patients were free of adverse events (88%).

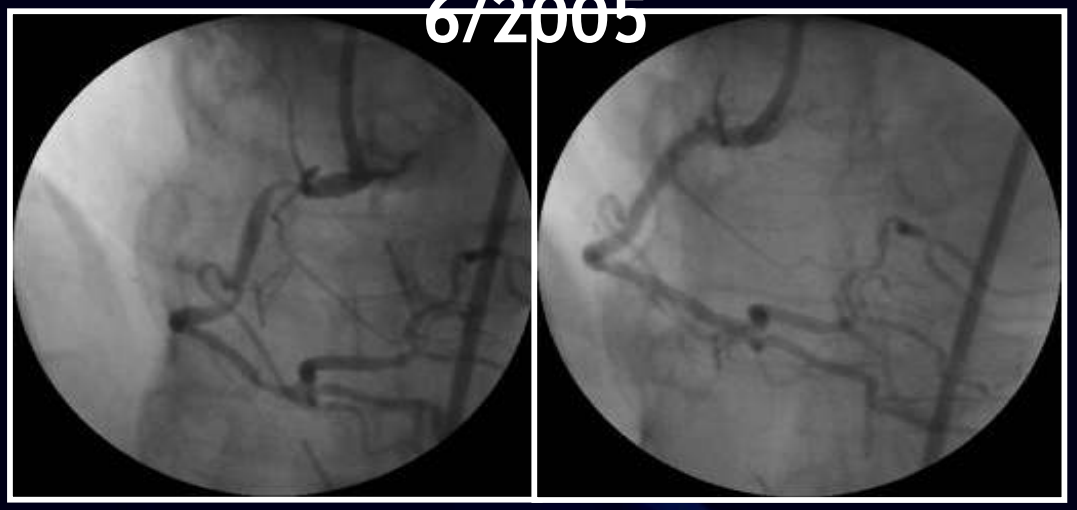
Angiographic follow-up is also available in 20 (40.1%) patients, which showed no instent restenosis.

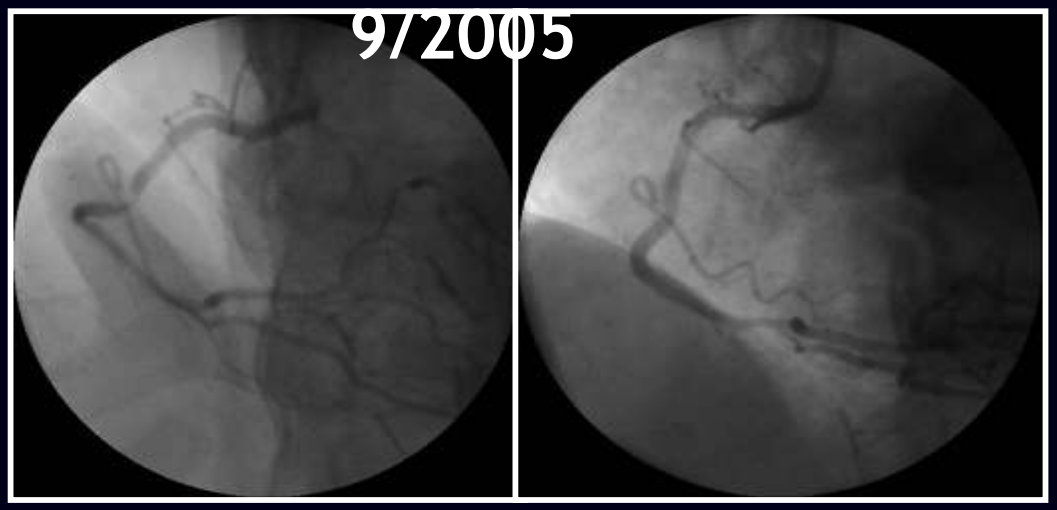
1 (2%) patient died 18 months after the procedure.

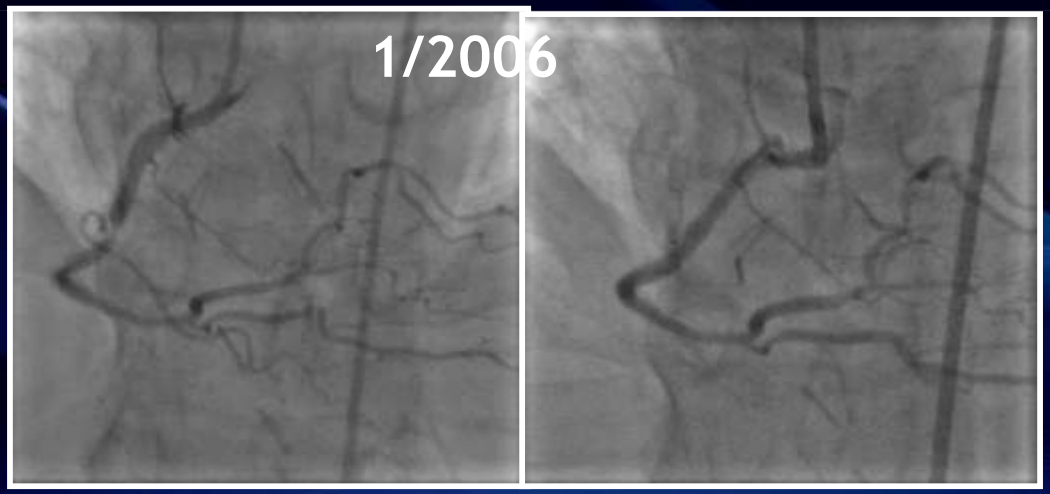
Target lesion revascularisation (TLR) resulting from recurrent restenosis was required in 3 patients (6%); 1 (2%) patient had repeat percutaneous revacularisation and 2 (4%) patients underwent CABG.

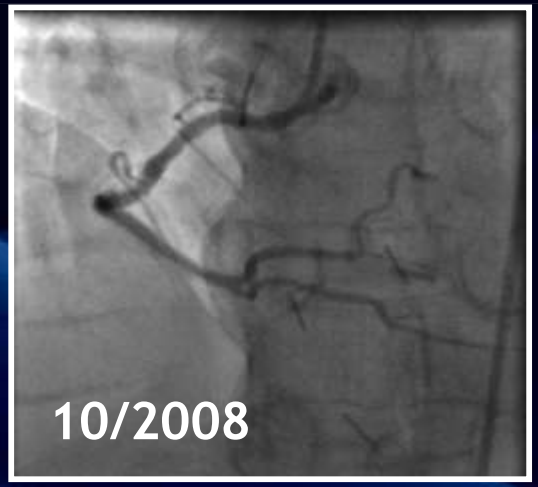
2 (4%) patients required percutaneous coronary revascularization in another vessel.

CASE 1

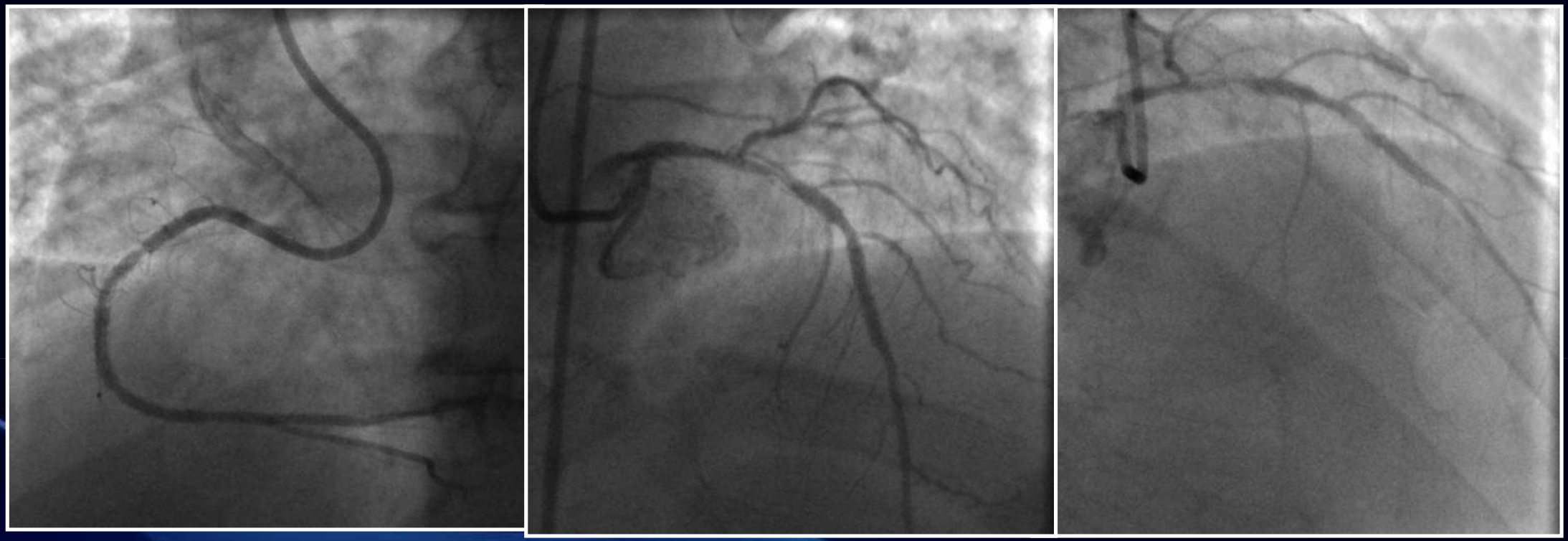






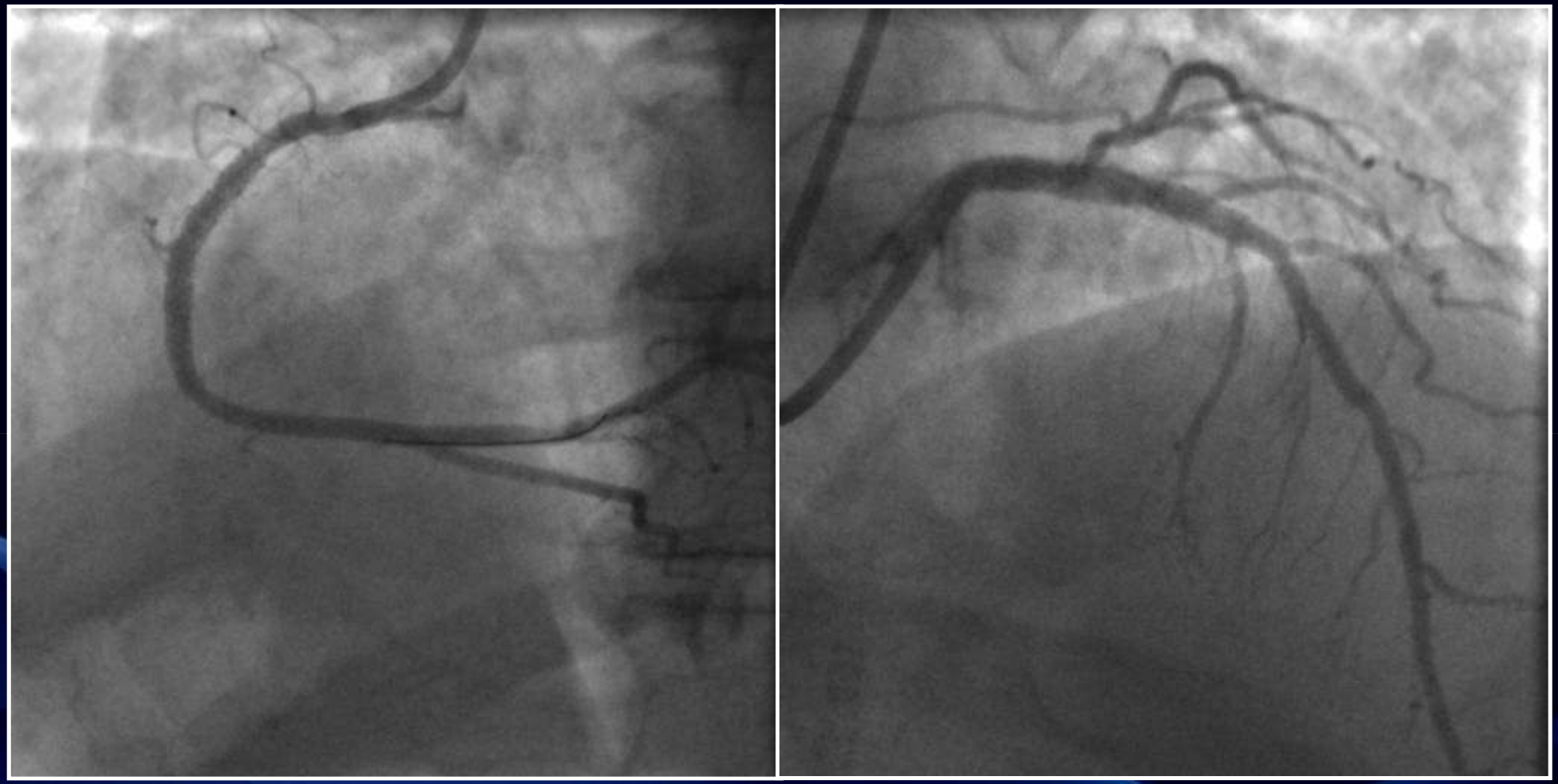


CASE 2

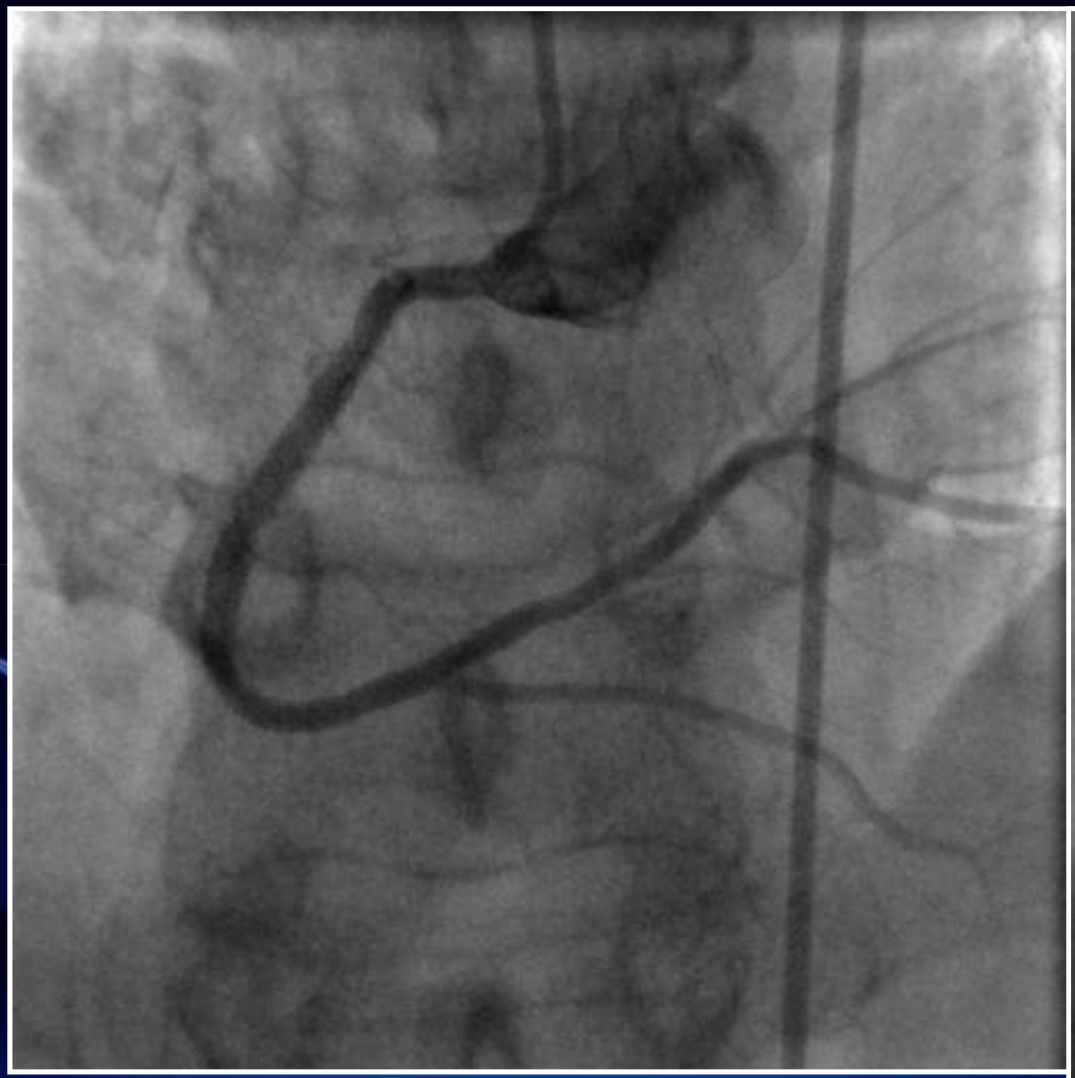


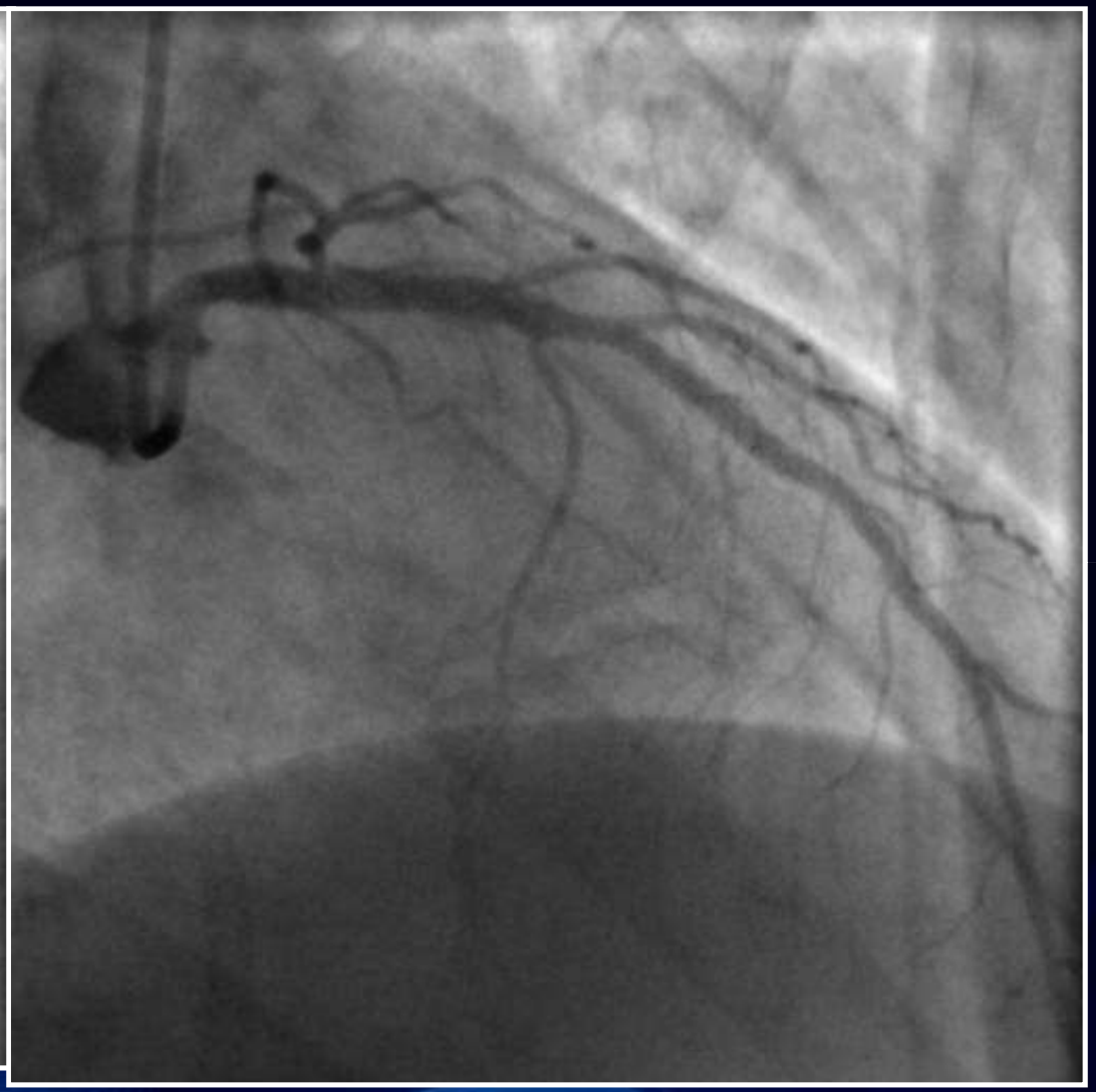
C/C DES ISRS

Immediate Result



F/U 6 months





Conclusions

Repeat DES implantation for DES restenosis is feasible and safe with a relatively low incidence of MACE at long term follow-up.