

# **Left Main Case : Complex Trifurcation**

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# Clinical History

60 yrs, Female

Risk factors : HTN, Dyslipaemia

EKG: : Normal

Troponin I : Within normal limit

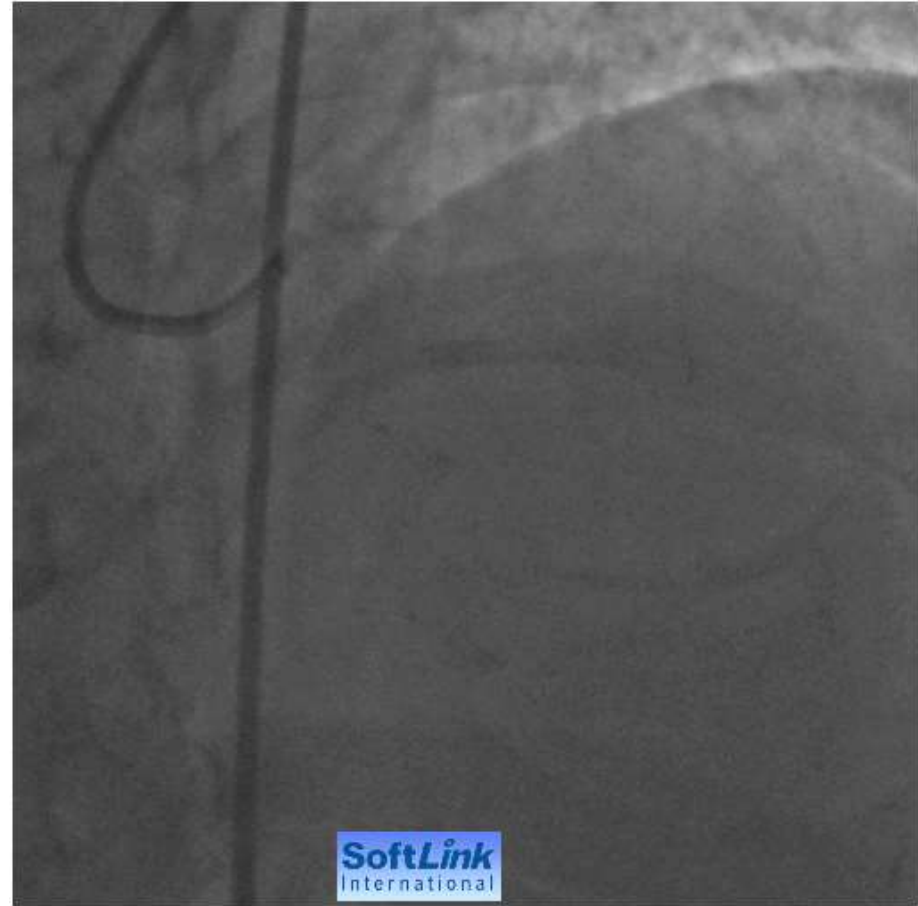
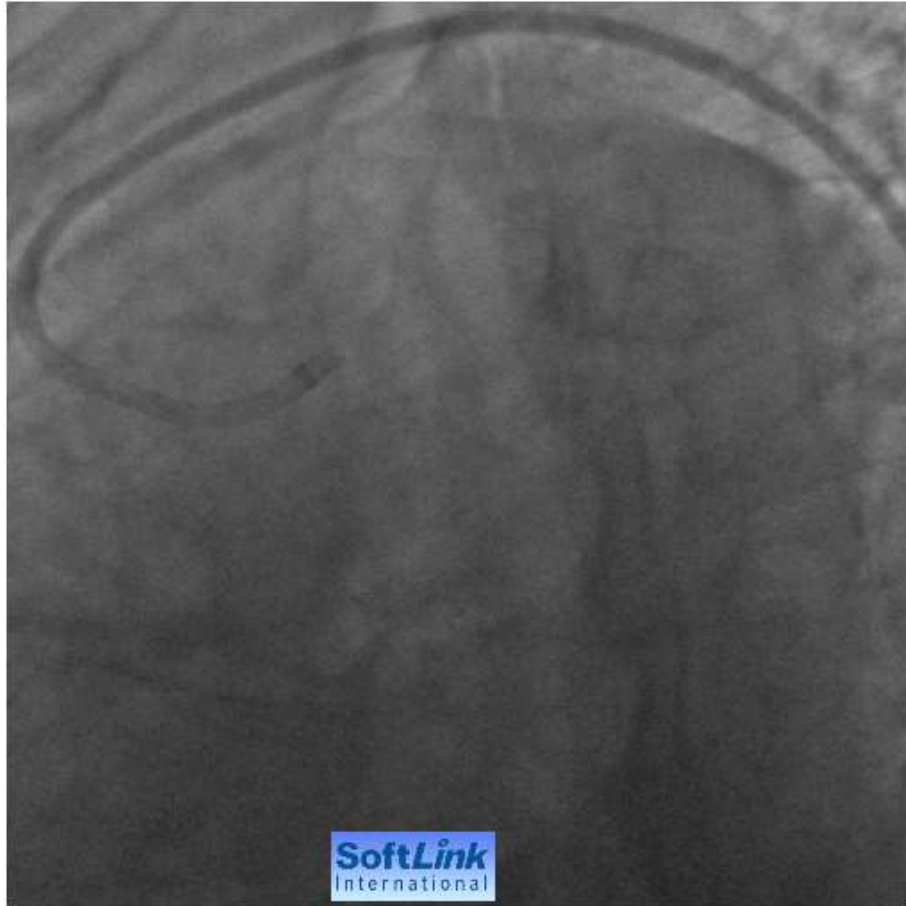
Complain of chest on minimal exertion

Echo: Anterior wall is hypokinetic

LV EF 59 %

Rx: Aspirin, clopidogrel,  $\beta$ -blocker, nitrate, and a statin

# Coronary Angiogram

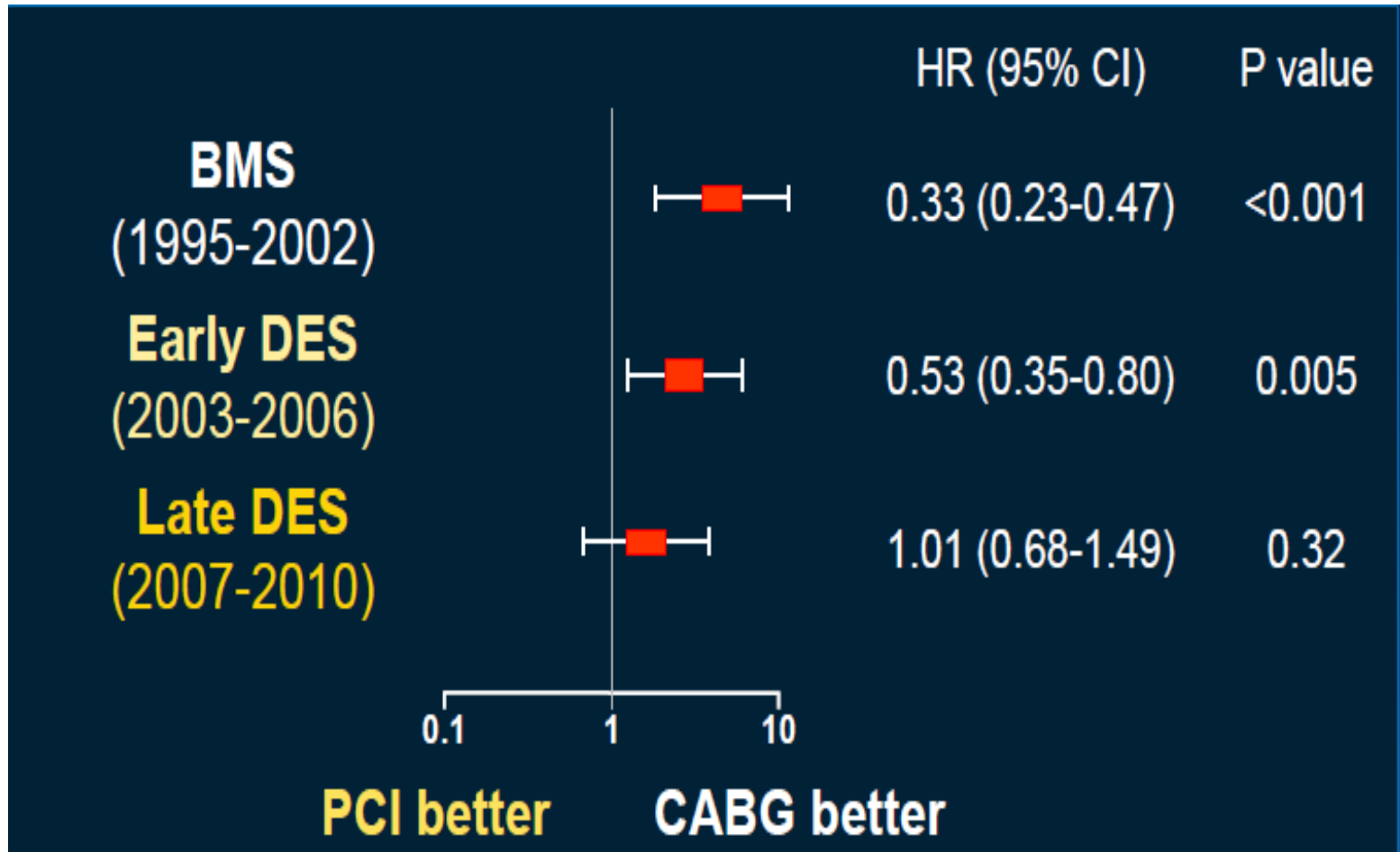


# Coronary Angiogram



How Should I Treat This Case ?

## Adjusted Hazard Ratios of MACCE Between CABG and PCI for LM Disease ( N=2360)



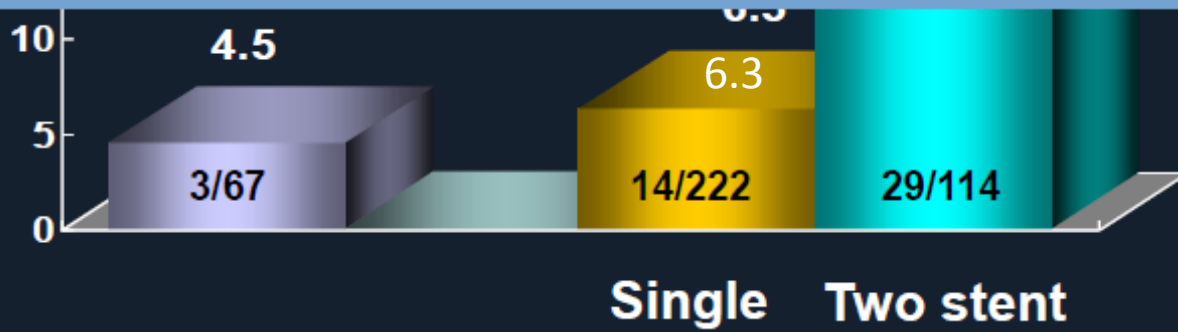
New Data from ASAN MAIN registry, 2014

# Restenosis at 2 year

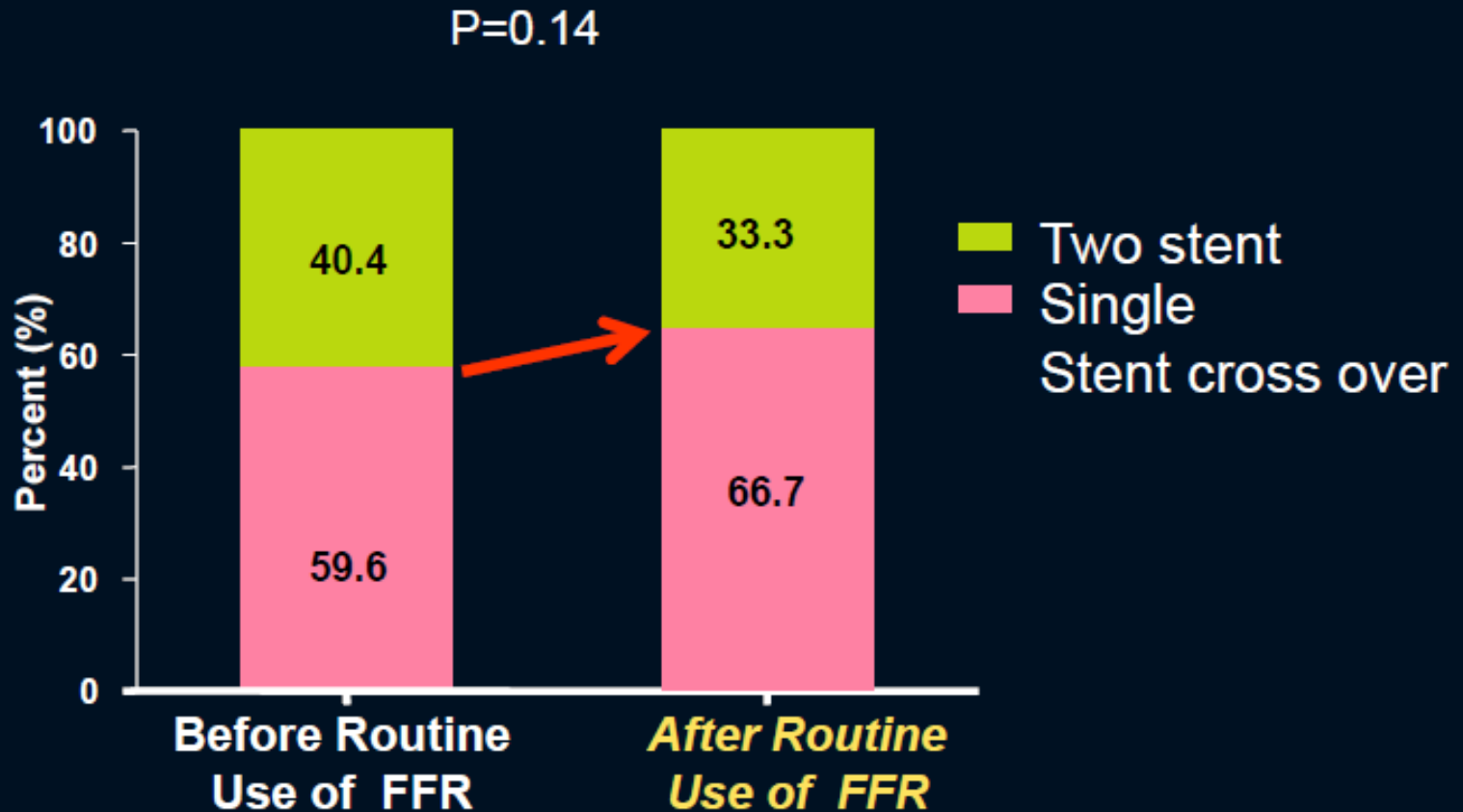
Pooled Analysis in 403 Patients with LM PCI Using SES



Stent Crossover *Is Clearly Better!*



# Distal LM Stent Technique Stent Crossover Increased

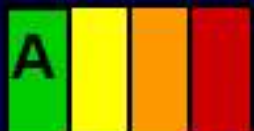




# The Guidelines

## Provisional versus Elective SB stenting

I IIa IIb III



**Provisional** side-branch stenting should be the initial approach in patients with bifurcation lesions when the **side branch is not large** and has only **mild or moderate foal disease** at the ostium

I IIa IIb III



It is reasonable to use **elective double stenting** in patients with complex bifurcation morphology involving a **large side branch** where the **risk of side-branch occlusion is high** and the likelihood of successful side branch re access is low

# ROTAXUS

240 patients enrolled between August 2006 and March 2010 at 3 clinical sites in Germany

1:1 randomization

**Rota + PES**  
(N=120)

**PTCA + PES**  
(N=120)

240 patients analyzed with complete in-hospital follow-up

- 2 patients died in-hospital
- 6 patients withdrew consent
- 5 patients lost at follow-up

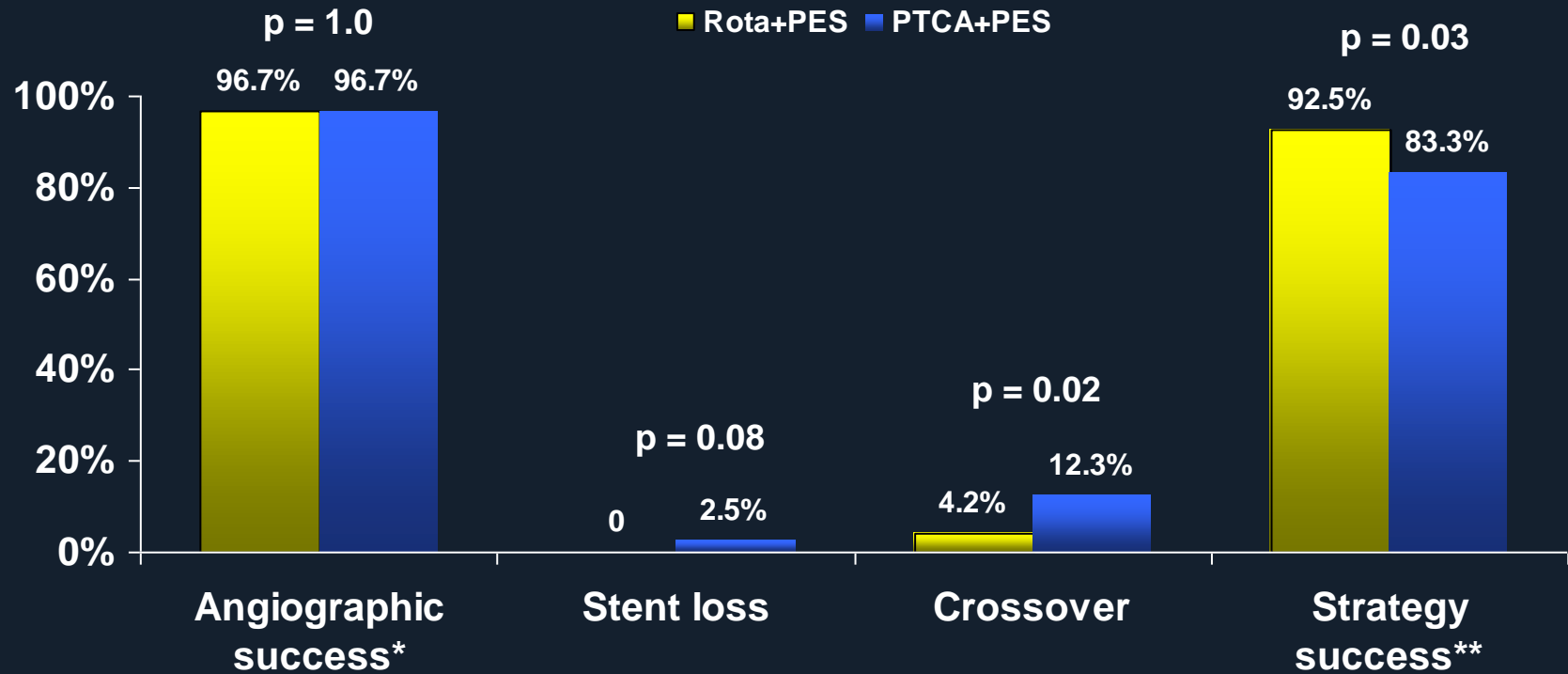
Clinical follow-up at 9 months in 96.2% (N=227)

Angiographic follow-up at 9 months in 80.5% (N=190)

# Procedural Outcome (I)

	<b>Rota + PES</b> n = 120	<b>PTCA + PES</b> n = 120	<b>P</b> Value
<b>Procedural duration (min)</b>	66.4±44.5	57.4±34.5	0.05
<b>Fluoroscopy time (min)</b>	22.8±21.9	18.1±16.7	0.04
<b>Contrast amount (ml)</b>	201.0±113.6	181.8±93.6	0.11
<b>Dissections</b>	4 (3.3%)	4 (3.3%)	1.0
<b>Perforations</b>	2 (1.7%)	1 (0.8%)	0.56
<b>No/slow flow</b>	0	1 (0.8%)	0.32

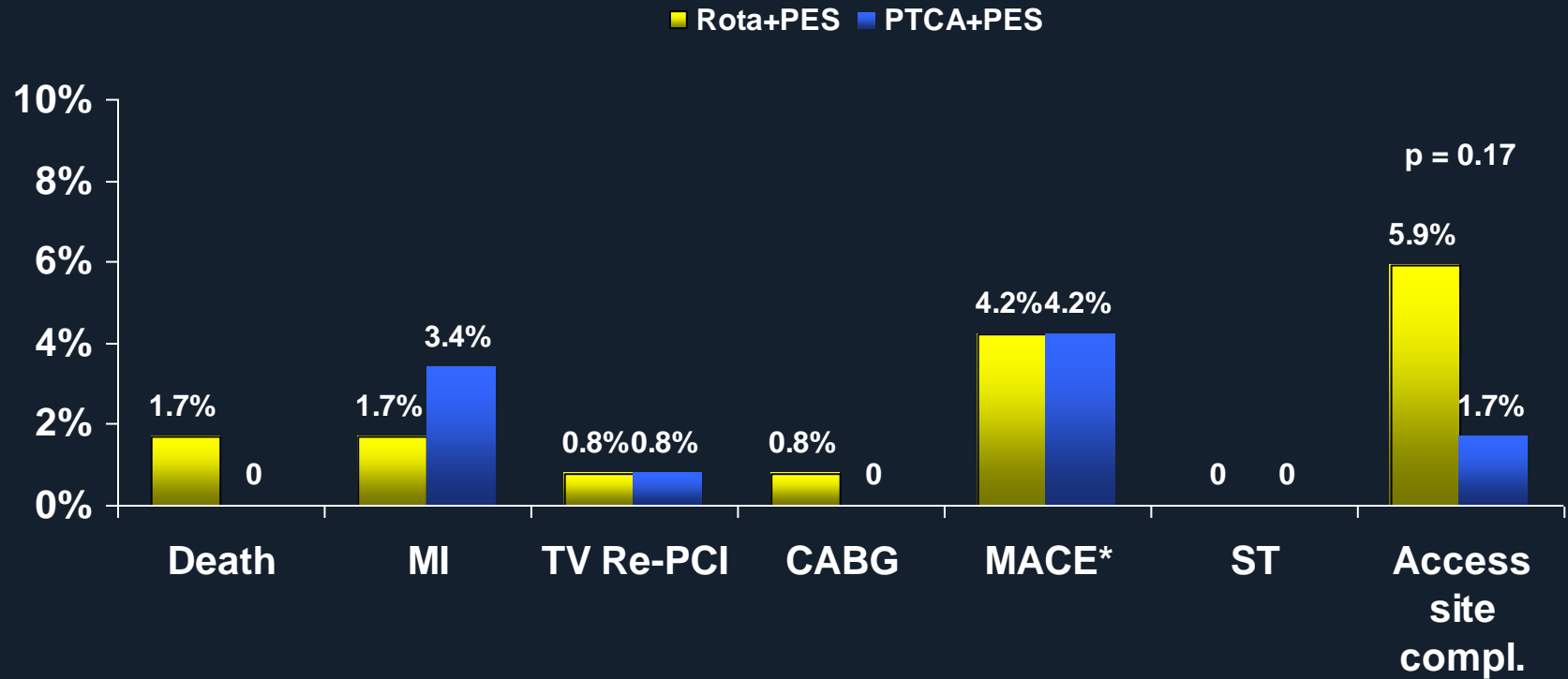
# Procedural Outcome (II)



\* Defined as <20% residual stenosis + TIMI 3 flow

\*\* Defined as angiographic success with no crossover or stent loss

# In-Hospital Outcome

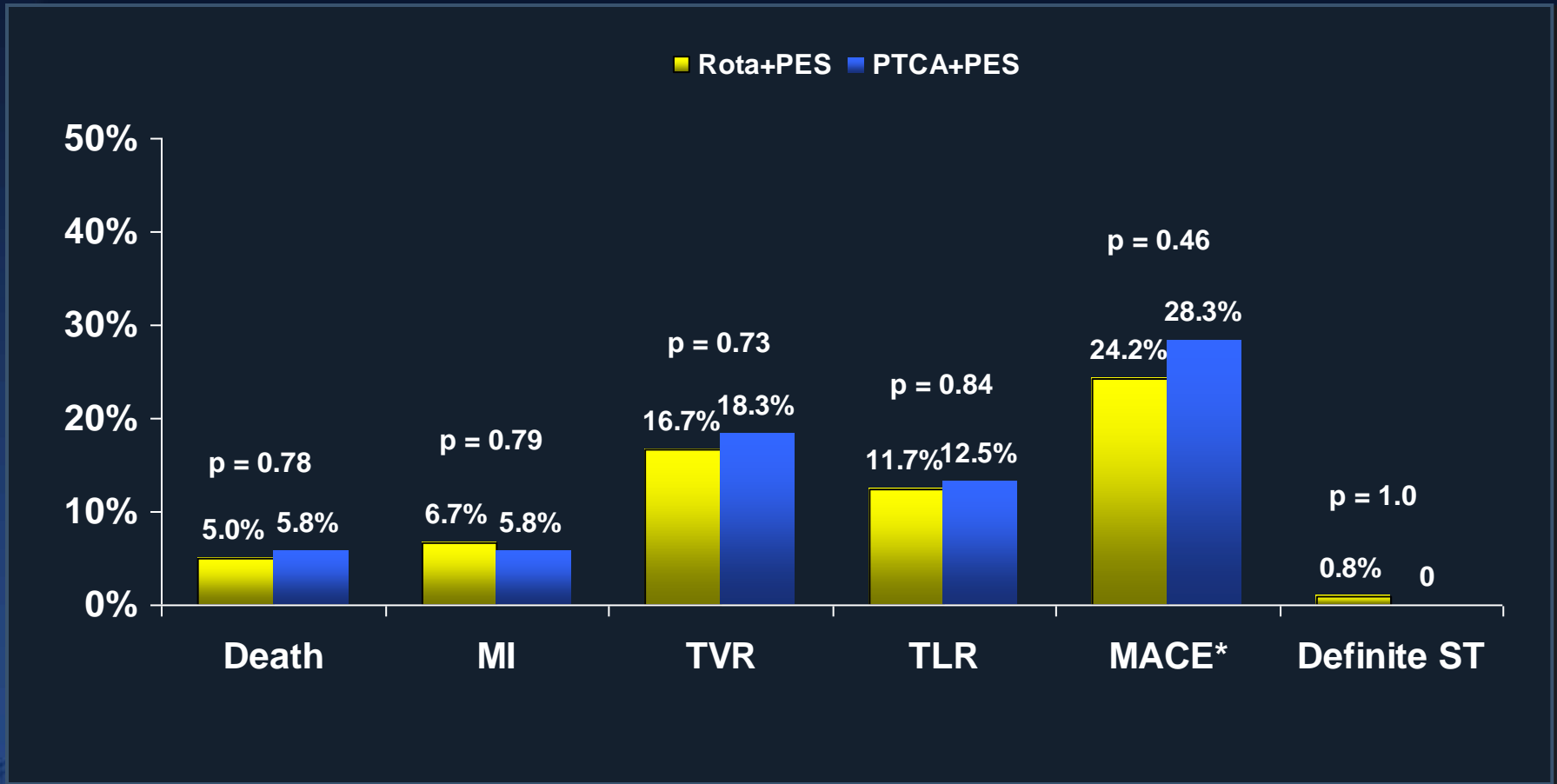


\* Defined as death, MI and TVR

# QCA data: 9-month reangiography

	<b>Rota + PES</b> n = 123	<b>PTCA + PES</b> n = 132	<b>P</b> Value
<b>Minimal lumen diameter (mm)</b>			
In-stent	2.14±0.63	2.25±0.62	0.15
In-segment	1.91±0.57	2.02±0.65	0.16
<b>Diameter stenosis (%)</b>			
In-stent	22.01±19.92	19.86±19.64	0.26
In-segment	27.92±18.97	26.99±1.73	0.44
<b>Late lumen loss (mm)</b>			
In-stent	0.44±0.58	0.31±0.52	0.01
In-segment	0.36±0.57	0.25±0.57	0.04
<b>Binary restenosis (%)</b>			
In-stent	14 (11.4%)	14 (10.6%)	0.84
In-segment	15 (12.2%)	17 (12.9%)	0.87

# Events at Follow-Up



\* Defined as death, MI and TVR

# Summary (I)

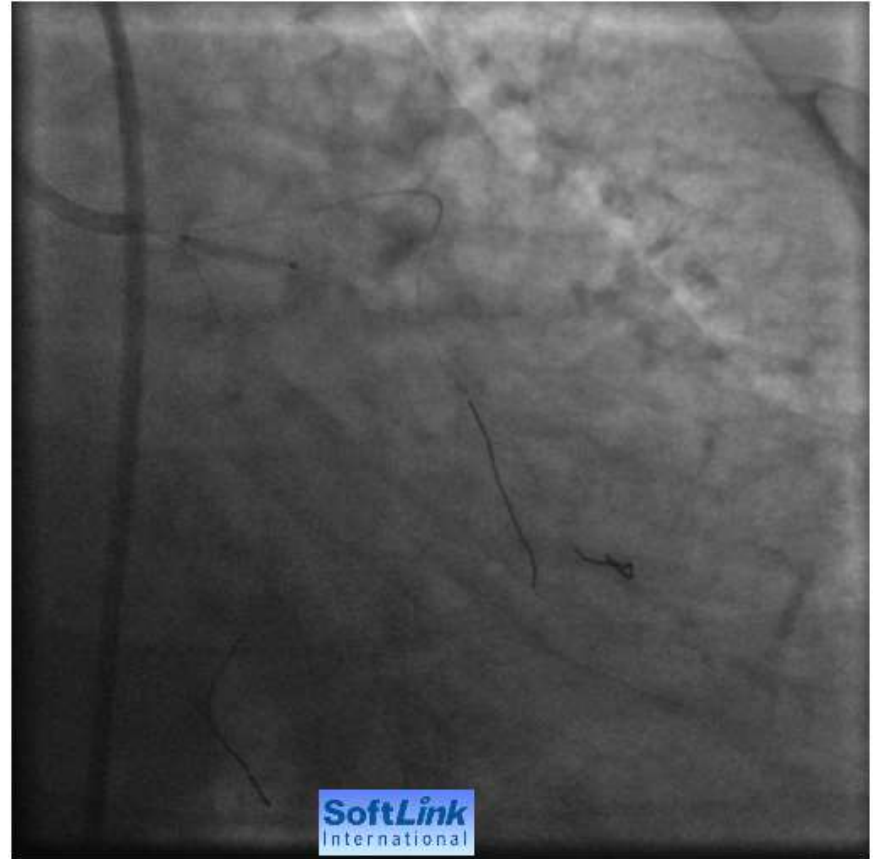
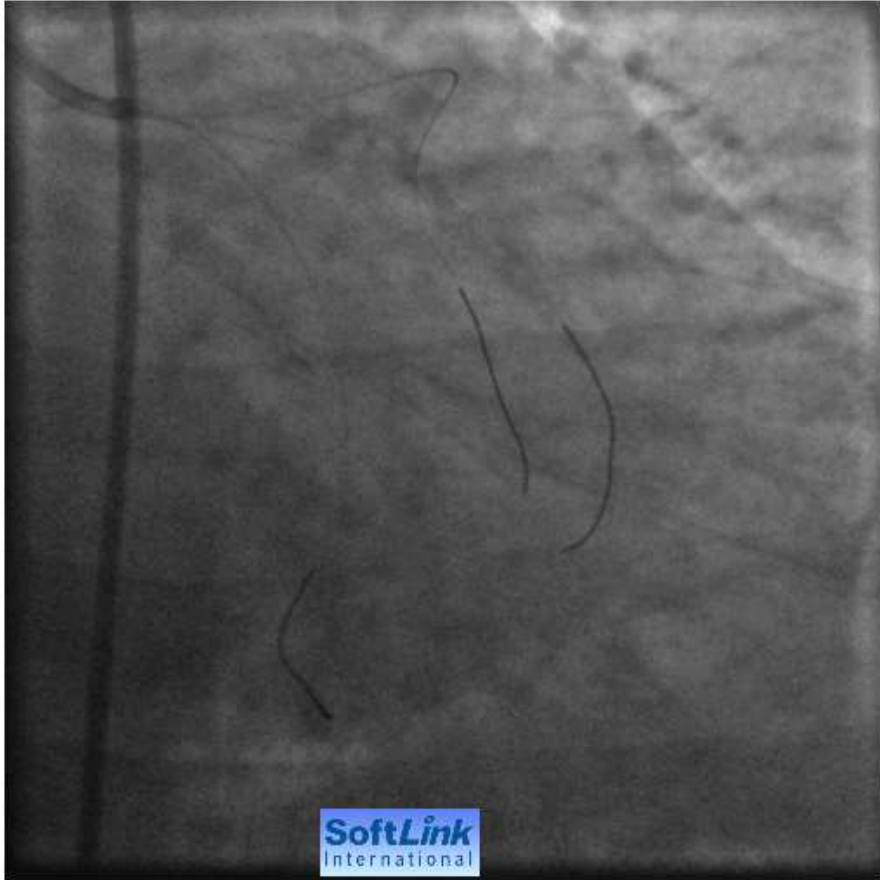
- Rotablation + PES implantation was not superior to balloon dilatation + PES implantation in reducing the primary endpoint of late lumen loss at 9 months in patients with complex calcified coronary artery disease.
- Rotablation (probably due to additional vessel trauma) rather decreased the efficacy of PES in reducing neointimal growth.



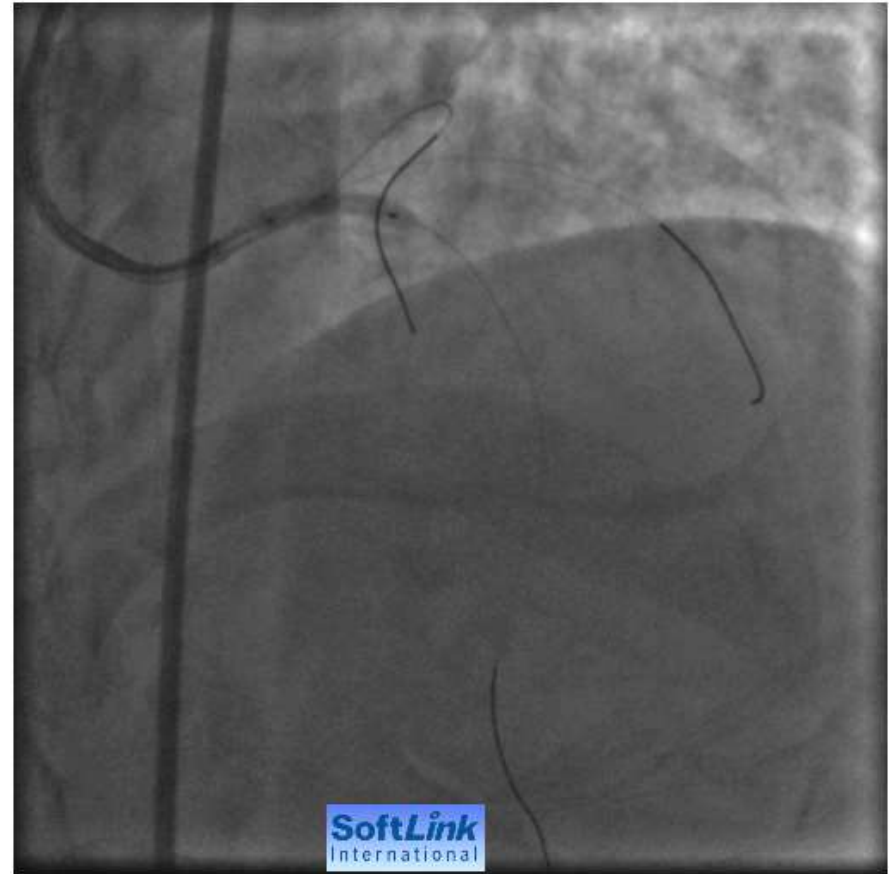
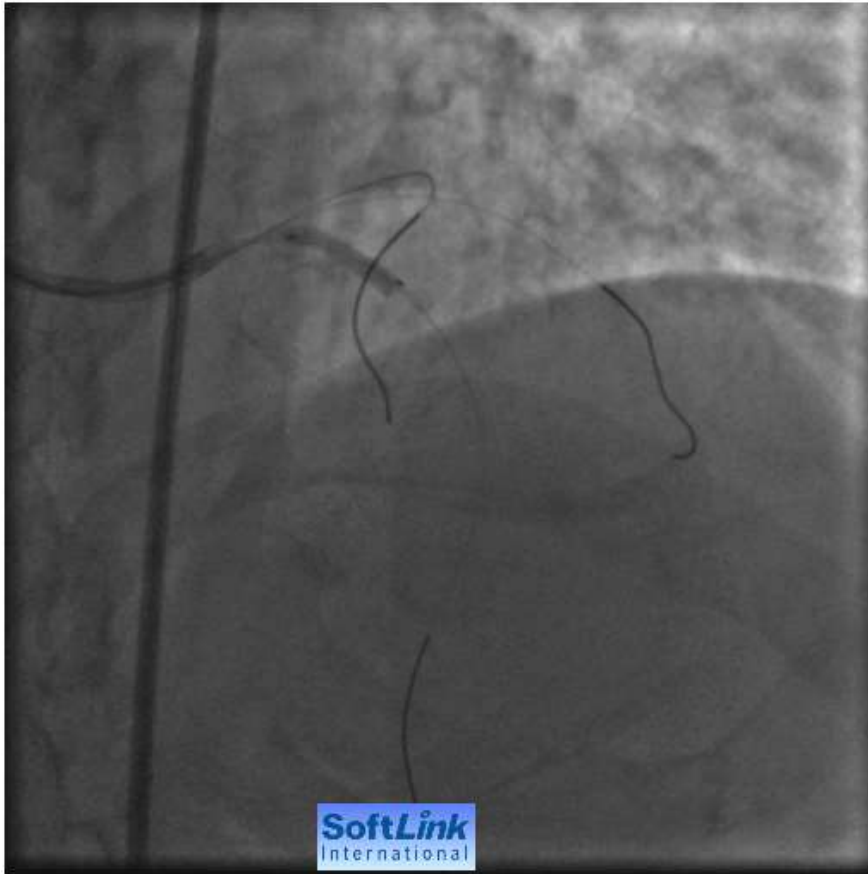
# Summary (II)

- The superior acute gain obtained by rotablation was counterbalanced by an increased late loss resulting in a neutral effect on restenosis.
- Rotablation remains an important bail-out device for uncrossable or undilatable coronary lesions and can improve overall success of DES implantation.

# Strategy !

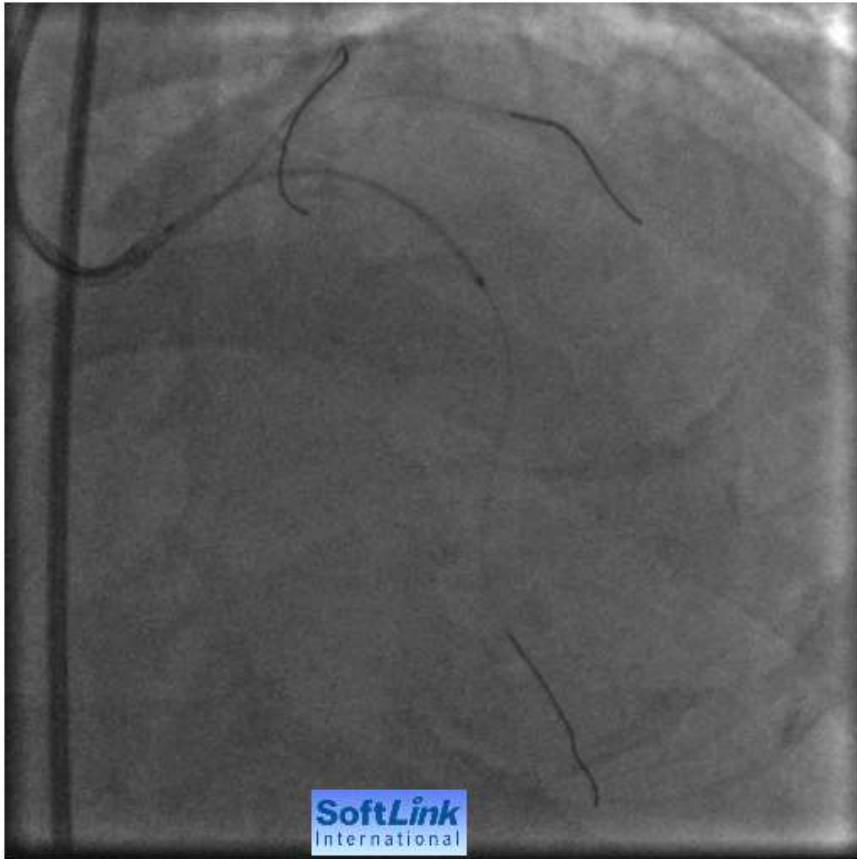


# Strategy !



Predilatation : Semi-compliant , Cutting . NC balloon

# Strategy !

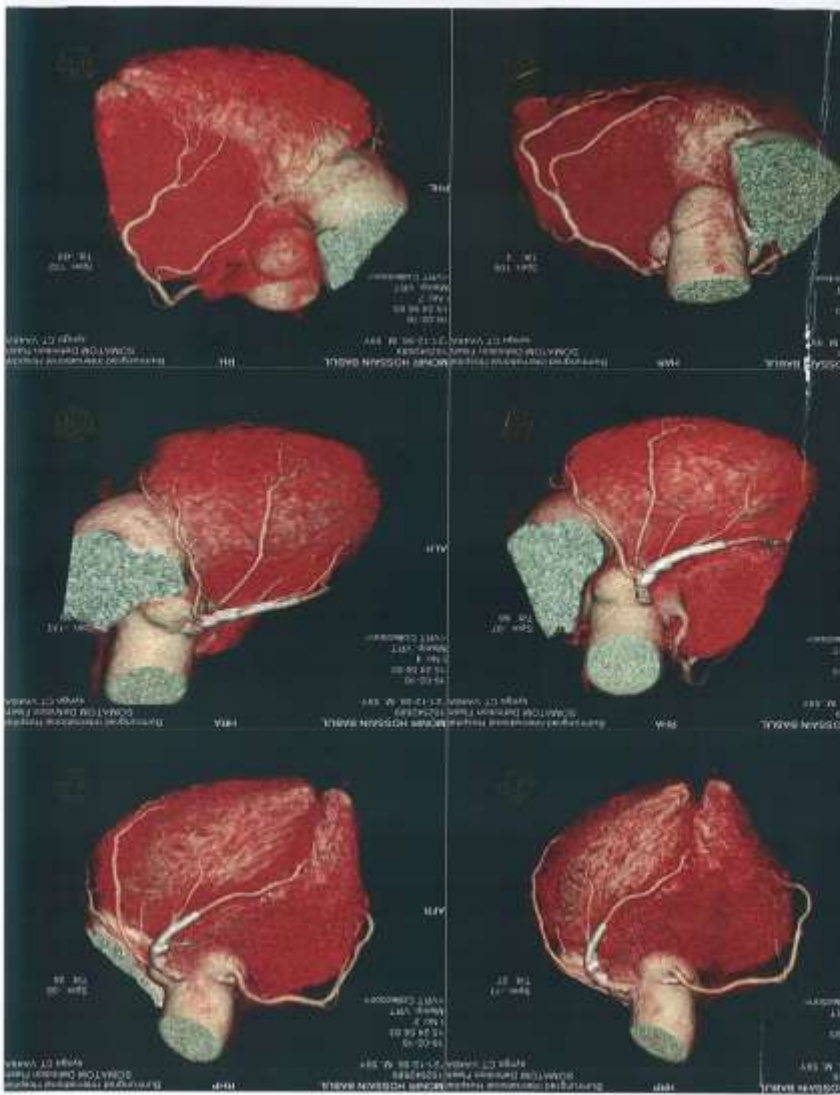


# Strategy !



# Final Result





# Take Home Message

Percutaneous Intervention for Complex Lesions: "Keep It Simple!"

Single Stent provisional strategy should be preferred

By starting with a provisional approach, all (sensible) options remain open

Consider 2<sup>nd</sup> stent, if the result is poor after provisional stenting and positive FFR

Step wise balloon predilatation : Semi-compliant , Cutting .  
NC balloon

Rotablation remains an important bail-out device for uncrossable or undilatable coronary lesions and can improve overall success of DES implantation



**THANK YOU**