

Titanium Nitride Oxide Active Stent:

Combining DES Clinical Efficacy

with

Enhanced BMS Safety

CHAIRPERSONS: *Renu Virmani, Patrick Serruys*

17-05-2012, Room 34 2A, 12:00 – 13:30

Potential conflicts of interest

Speaker's name: *Patrick Serruys*

X I do not have any potential conflict of interest

Learning Objectives

- **To understand the treatment possibilities offered with titanium nitride oxide active stents in the setting of high risk patients,**
 - **To appreciate the specific opportunities and advantages of titanium nitride oxide active stents in terms of DAPT & safety (AMI, death, thrombosis),**
 - **To compare the clinical results of different active stents technologies**
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Titanium Nitride Oxide

(1) Reduces Platelet & Fibrin Deposition

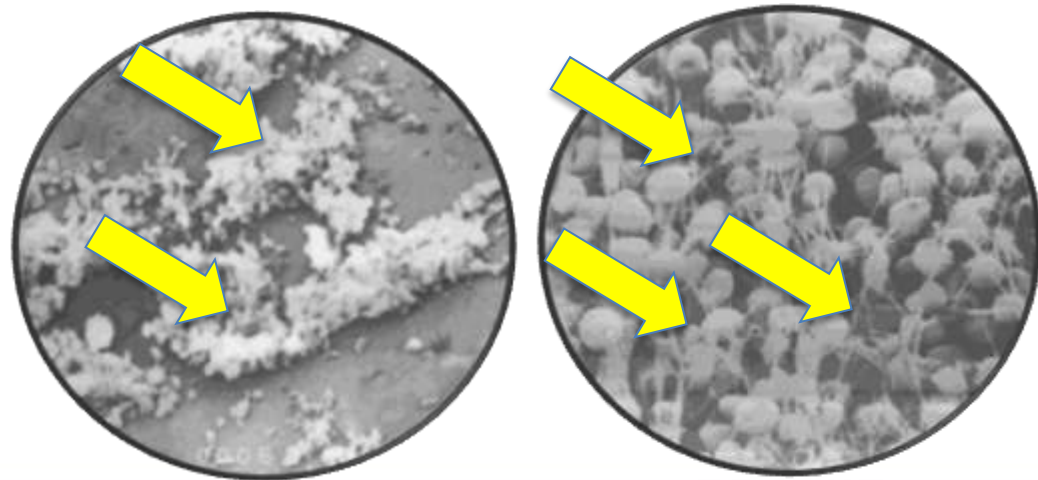
ON TITANIUM OXIDES

No Platelet Aggregation
& No Fibrinogen binding



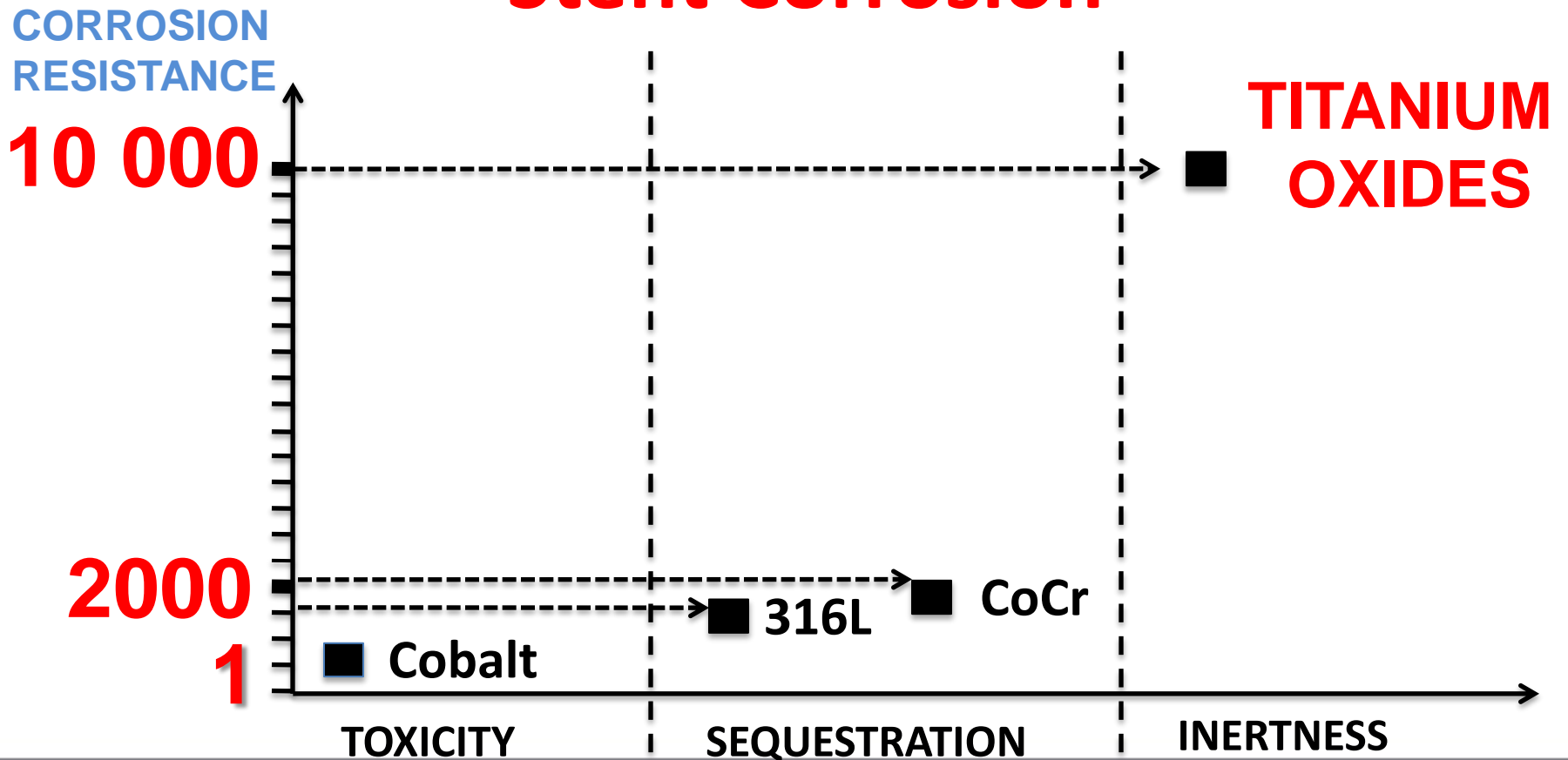
ON CARBON OXIDES

Presence of a large amount
of Platelet & Fibrinogen
binding



Titanium Nitride Oxide

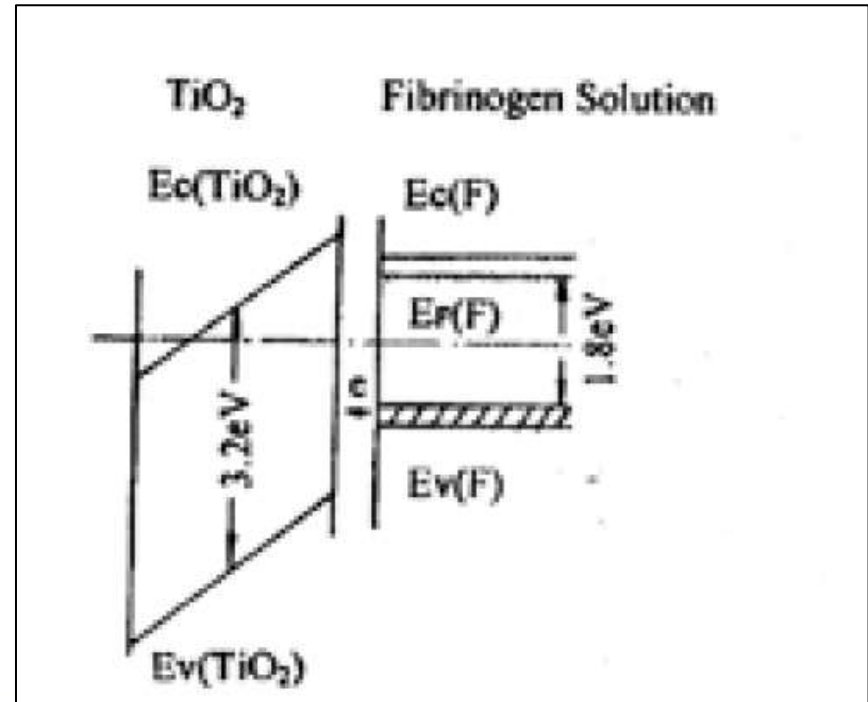
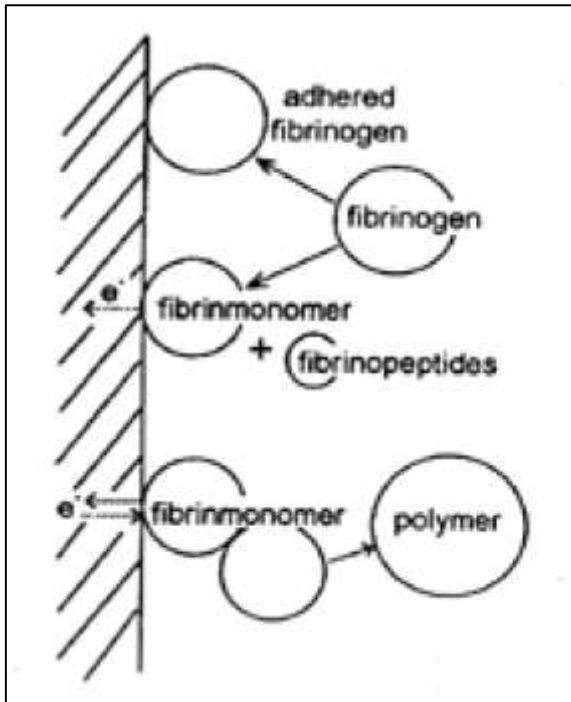
(2) Decreases Inflammation Induced by Stent Corrosion



Titanium Nitride Oxide

(3a) Minimizes Thrombus Formation

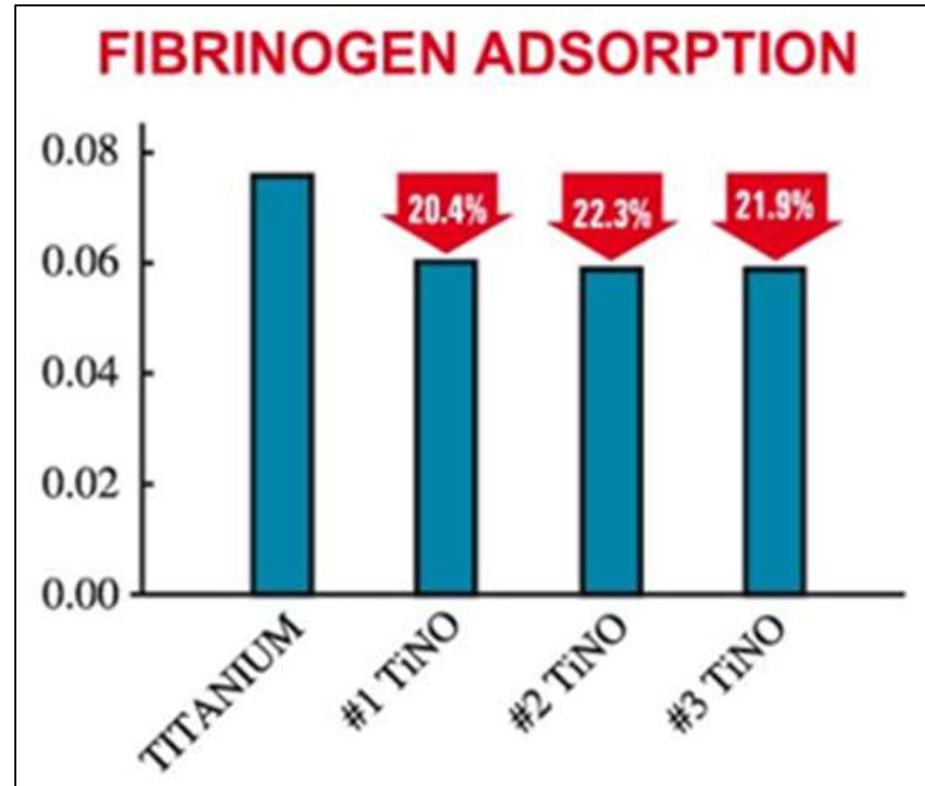
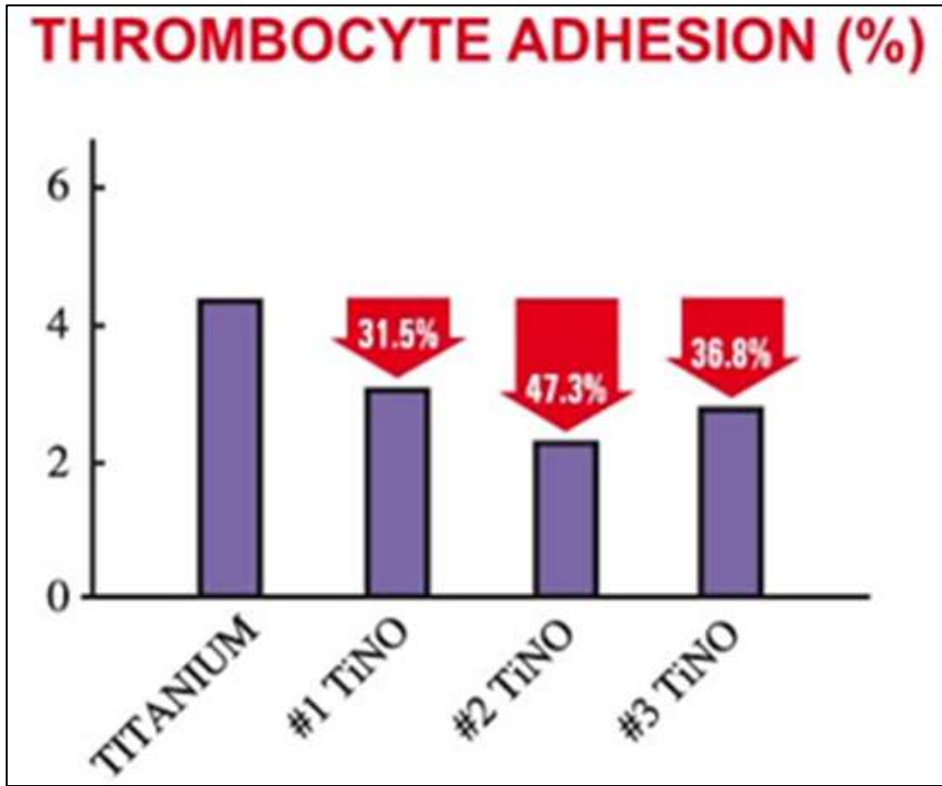
■ Titanium Oxides have the potential to inhibit the electron transfer from fibrinogen to the coating surface thus minimizing the thrombus formation:



Titanium Nitride Oxide

(3b) Minimizes Thrombus Formation

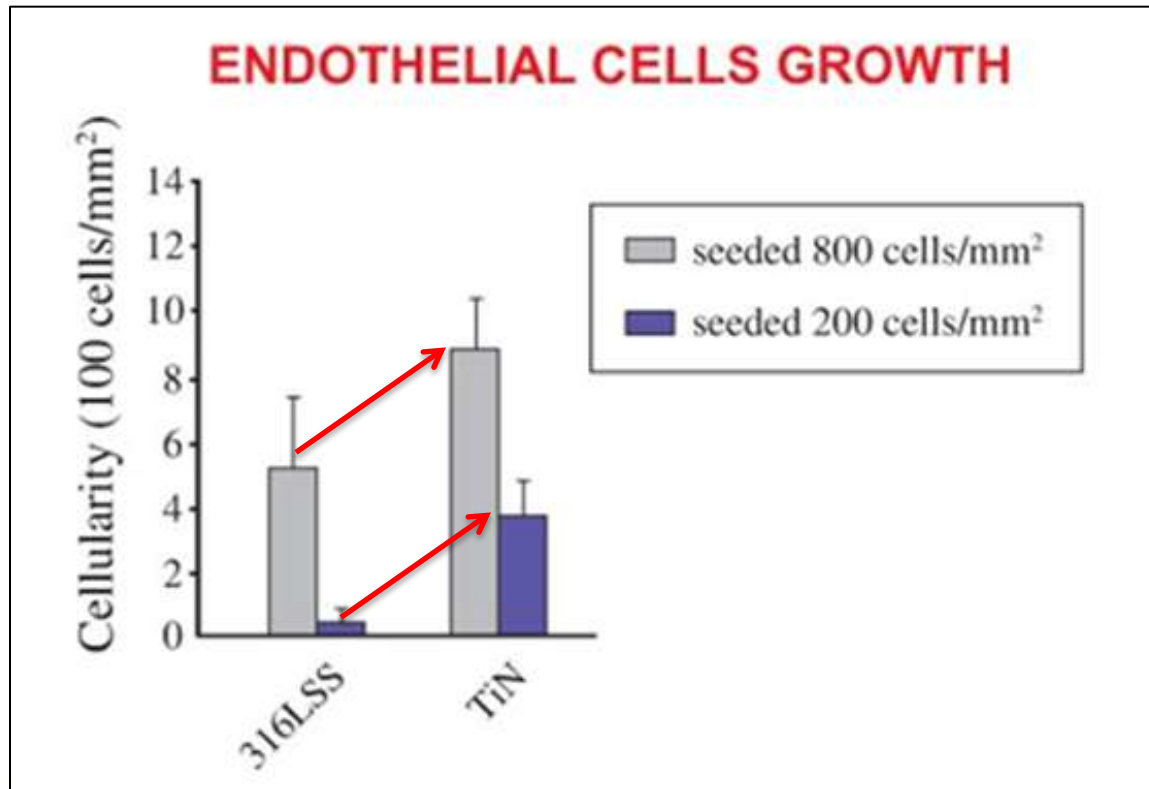
■ Titanium-Nitride-Oxide is SUPERIOR to Titanium-Oxide to reduce thrombocyte adhesion (up to **47.3%**) & fibrinogen adsorption (up to **22.3%**)



Titanium Nitride Oxide

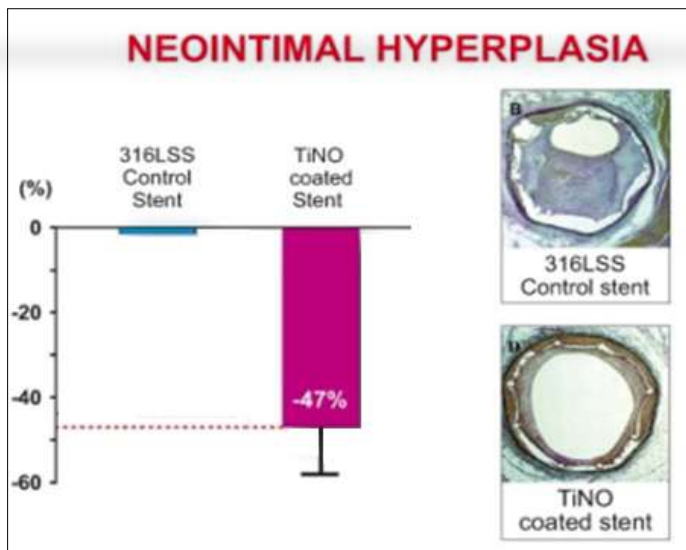
(4) Promotes Endothelial Healing

- Titanium-Nitride is SUPERIOR to 316L stainless steel to promote endothelial cells growth (from +60% to +600%):



BAS like DES Reduces Neointimal Proliferation (47% vs. 50%)

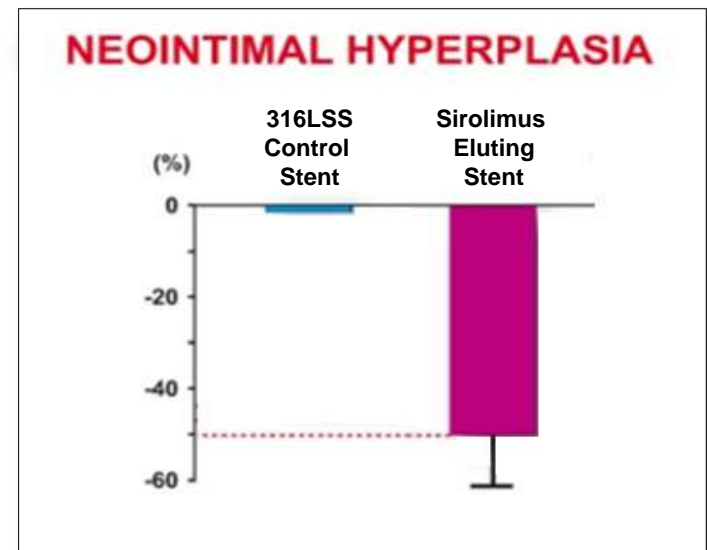
BAS PORCINE MODEL STUDY



TITANIUM-NITRIDE-OXIDE

↓ **47%**

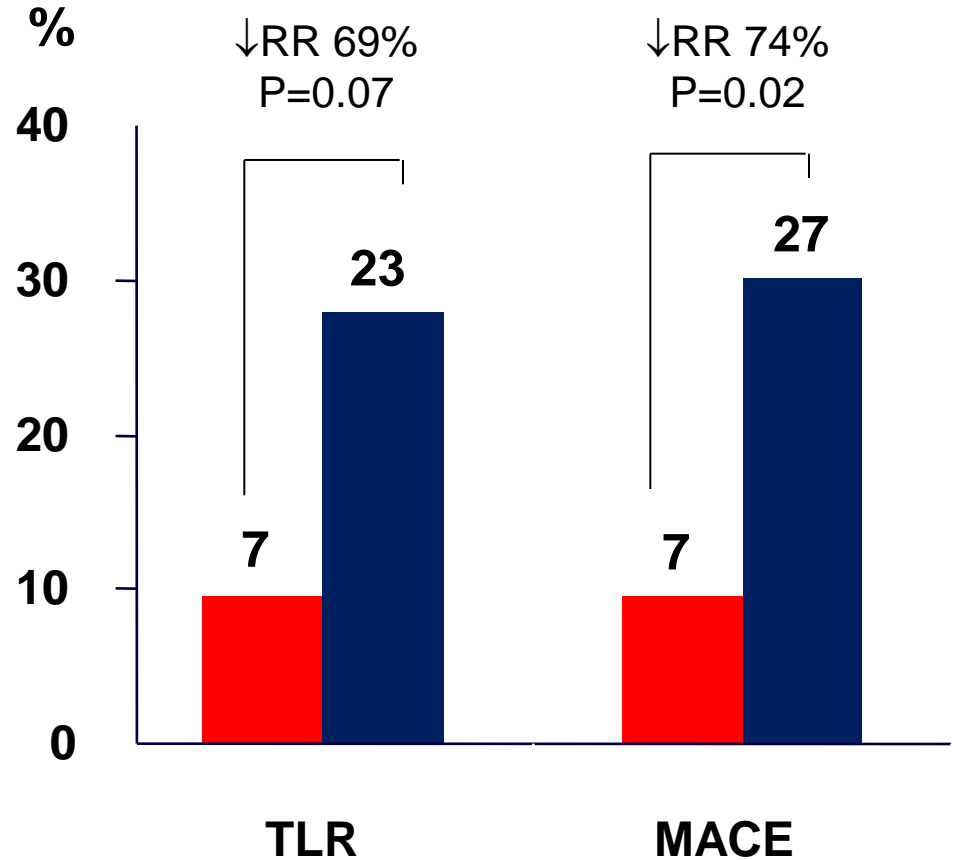
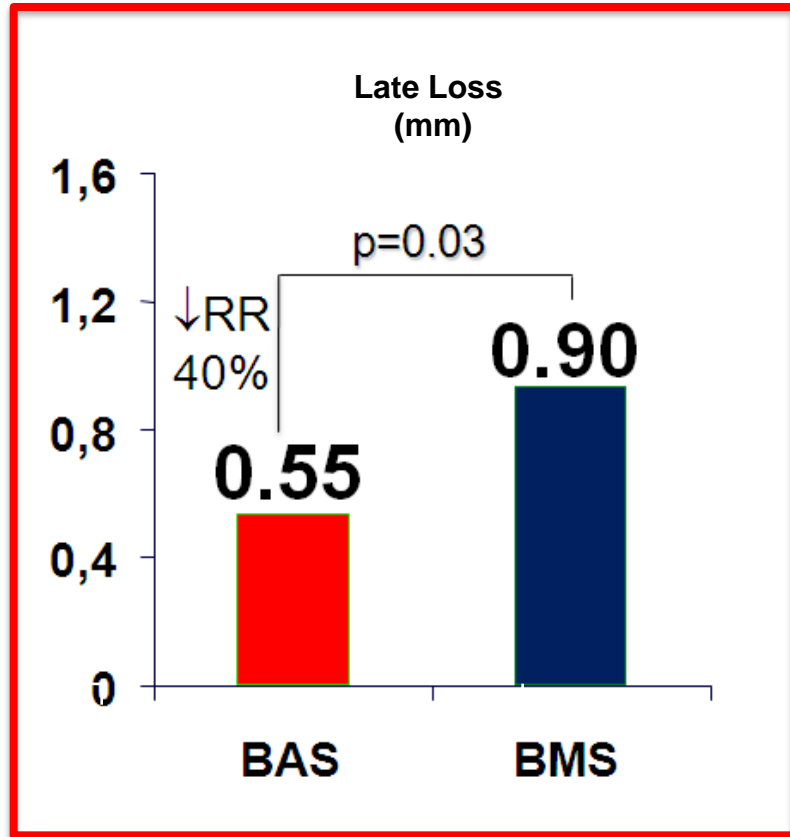
DES PORCINE MODEL STUDY



S I R O L I M U S

↓ **50%**

Titanium Nitride Oxide Proven Late Loss Reduction



■ BAS

■ BMS

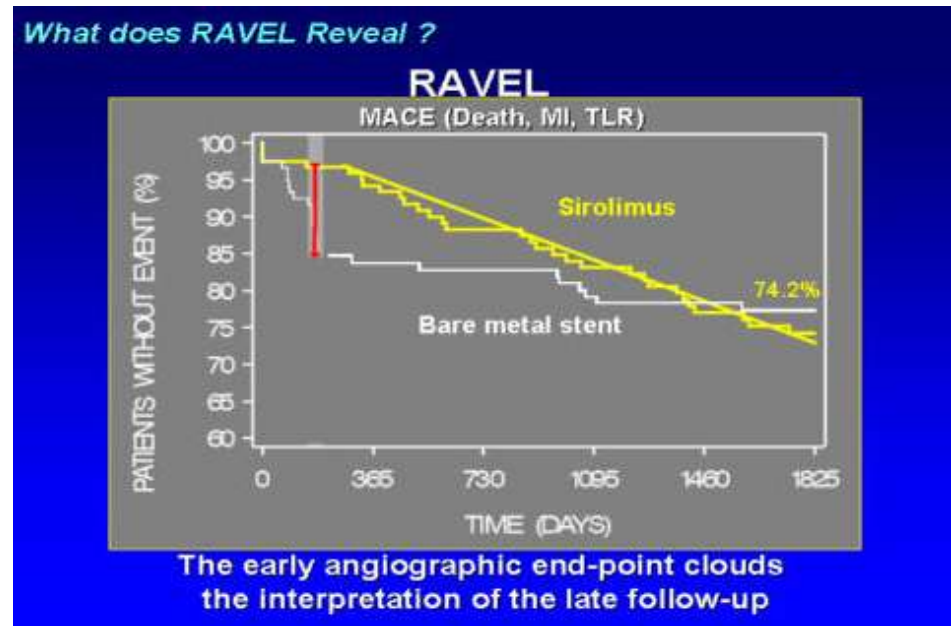
BAS Higher Safety Profile than DES @ FU

BAS: TINOX 5-YEAR FOLLOW UP



- ✓ BAS: has shown No Late Catch Up
- ✓ No L or VLS thrombosis
- ✓ Short DAPT

SES: RAVEL 5-YEAR FOLLOW UP



- ✓ SES has shown Late Catch Up
- ✓ Issue with L & VLS thrombosis
- ✓ Long term DAPT required

Faculty & Agenda

Patrick Serruys

Rotterdam, Netherlands



Introduction: The Titanium Nitride Oxide Bio Active Stent Concept

Renu Virmani

Washington, USA

Pathology
Approach



Understanding the complex pathology of ACS patients and the best possible stent treatments available

Michael Angioi

Nancy, France

Angioplasty
Approach



How to deal with a complex ACS patient associated with a large thrombus burden ?

Pasi Karjalainen

Pori, Finland

RCT
Approach
Vs 2nd Gen.
DES



2-year results of the BASE-ACS Randomized Trial Comparing Titan2 BAS with Xience V EES in ACS

Adam De Belder

Brighton, UK

RCT
Approach
Vs 1st Gen.
DES



Lessons from comparative trials in ACS assessing patients outcomes after various stenting options

Patrick Serruys

Rotterdam, Netherlands



Take Home Message on Titanium Nitride Oxide Bio Active Stent (BAS)