

# PHYSIO DAY

JOURNÉES DE PHYSIOLOGIE  
EN CARDIOLOGIE INTERVENTIONNELLE

## Les études à venir et celles qui manquent

Pr Gilles Barone-Rochette

Interventional cardiology and cardiac imaging

Pôle Thorax et vaisseaux- CHU de Grenoble

Inserm 1039

**5 & 6 AVRIL 2024**

**HÔTEL SHERATON · NICE**



# Disclosure

- Consulting: Abbott Vascular, Bayer, Novonordisk, General electric, Medis imaging
- Honoraria: Bayer, AMGEN, Sanofi, AstraZeneca, Novonordisk, Novartis, Pfizer, Boehringer Ingelheim
- Grants: MDS, Pfizer, Bayer, Abbott vascular

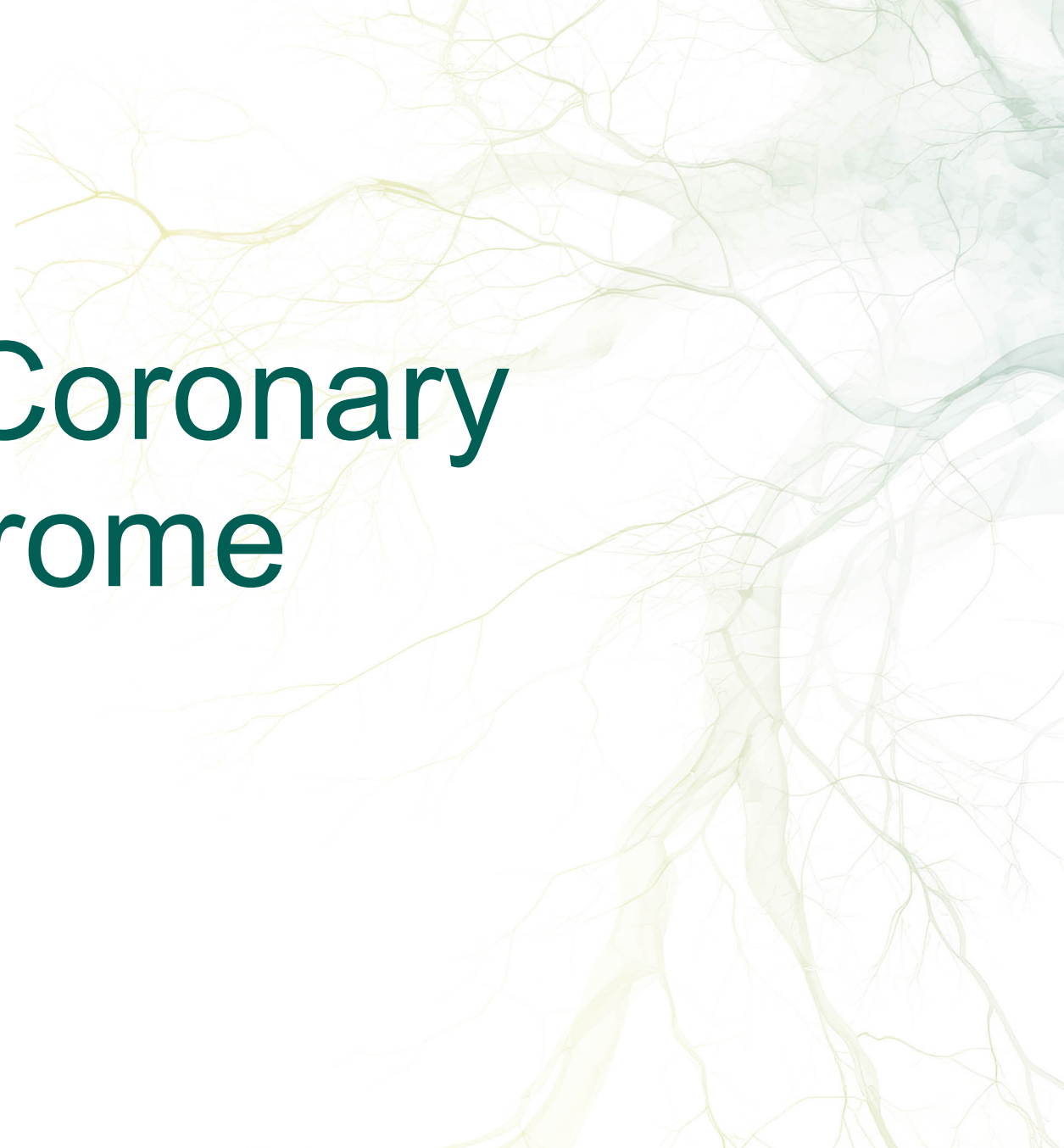


# Epicardial Diseases



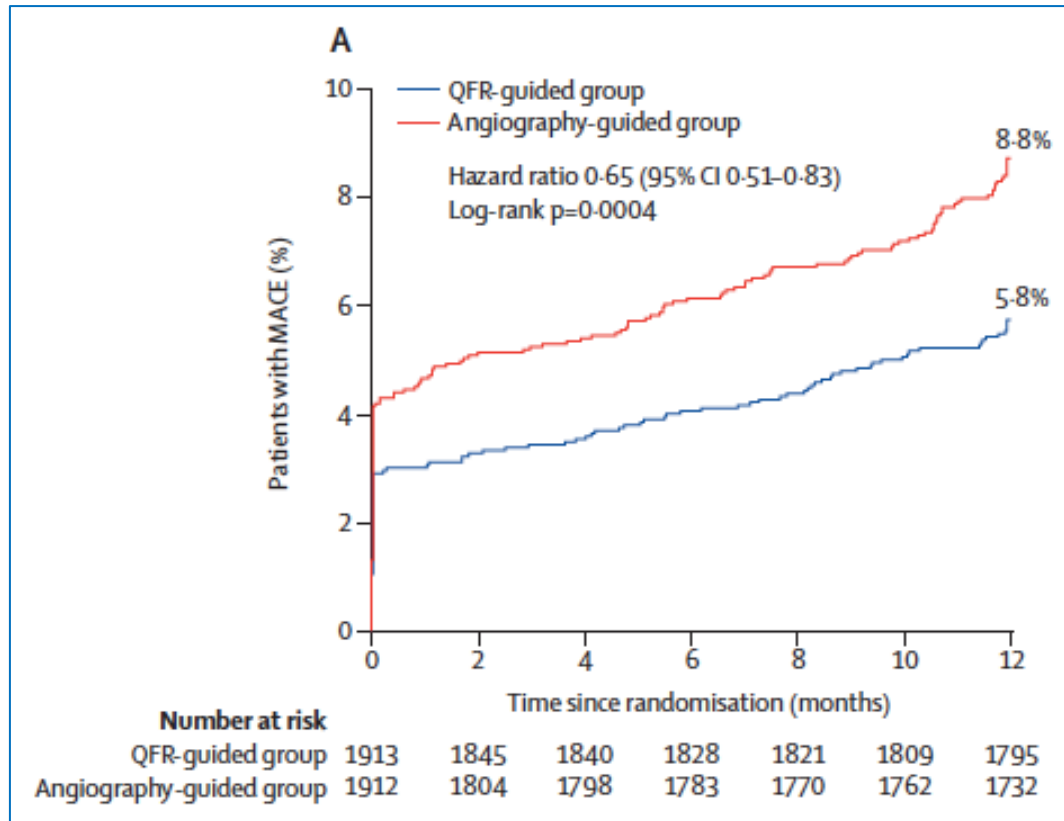


# Chronic Coronary Syndrome





# Randomized Clinical Trial: FAVOR III China: Superiority QFR vs Angio



	QFR-guided group (n=1913)	Angiography-guided group (n=1912)	Hazard ratio (95% CI)	p value
<b>Primary endpoint</b>				
MACE	110 (5.8%)	167 (8.8%)	0.65 (0.51-0.83)	0.0004
Death from any cause	13 (0.7%)	9 (0.5%)	1.44 (0.62-3.37)	0.40
Myocardial infarction	65 (3.4%)	109 (5.7%)	0.59 (0.44-0.81)	0.0008
Ischaemia-driven revascularisation	38 (2.0%)	59 (3.1%)	0.64 (0.43-0.96)	0.031
<b>Major secondary endpoint</b>				
MACE excluding periprocedural myocardial infarction	59 (3.1%)	91 (4.8%)	0.64 (0.46-0.89)	0.0078

Xu et al Lancet. 2021 Dec 11;398(10317):2149-2159



# Randomized Clinical Trial: in progress

## Non inferiority Angio derived FFR vs FFR

- The FAVOR III EJ study (NCT03729739) / QFR
- The FAST III study (NCT0493177) / vFFR
- The Flash FFR II Study (NCT04575207) / caFFR

# PIONEER IV



## STUDY AIM

Compare QFR guided PCI to standard-of-care PCI in an all-comers population with 1M DAPT therapy



## PRIMARY ENDPOINT

**Non-inferiority** POCE at 12 months



## STUDY STATUS

FPI expected Q3 2021



## STUDY CHAIRMAN

Patrick Serruys  
William Wijns (co-chair)

## PRIMARY INVESTIGATOR

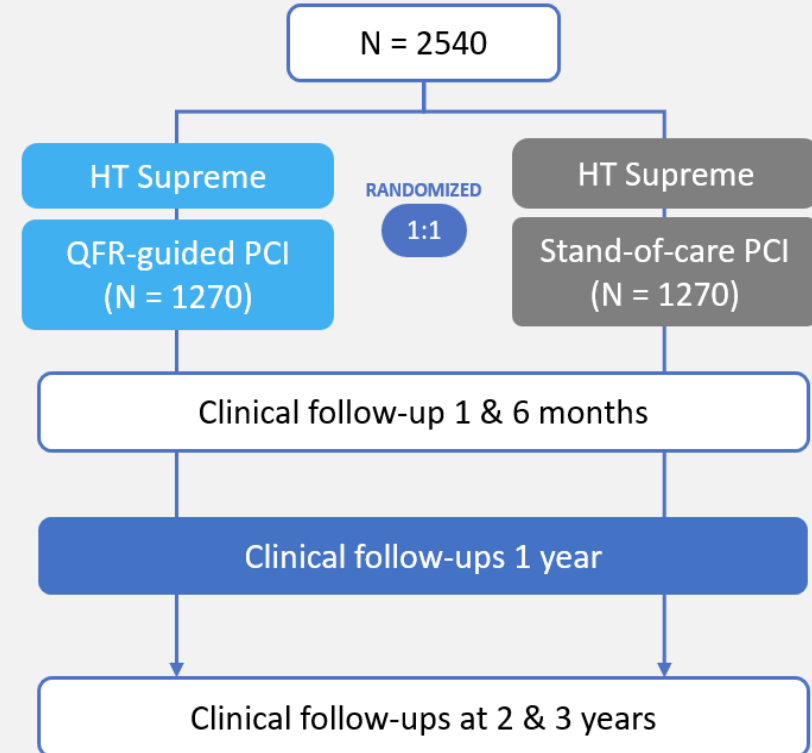
Faisal Sharif  
Andreas Baumbach  
Javier Escaned  
Peter Smits

## STUDY LOCATIONS

Europe



## STUDY FLOW



Clinicaltrials.gov Identifier: NCT04923191



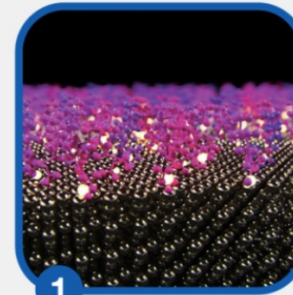
CaFFR



**RainMed**

## The HT Supreme<sup>®</sup> Drug Eluting

### How eG<sup>™</sup> Coating is Made?



1  
Stent is submerged in a monomer solution, an electric current is applied and coating is electro-grafted to the stent.



2  
Electric current is cycled, causing a brush-like structure of eG<sup>™</sup> coating to be synthesized onto the surface of the stent.



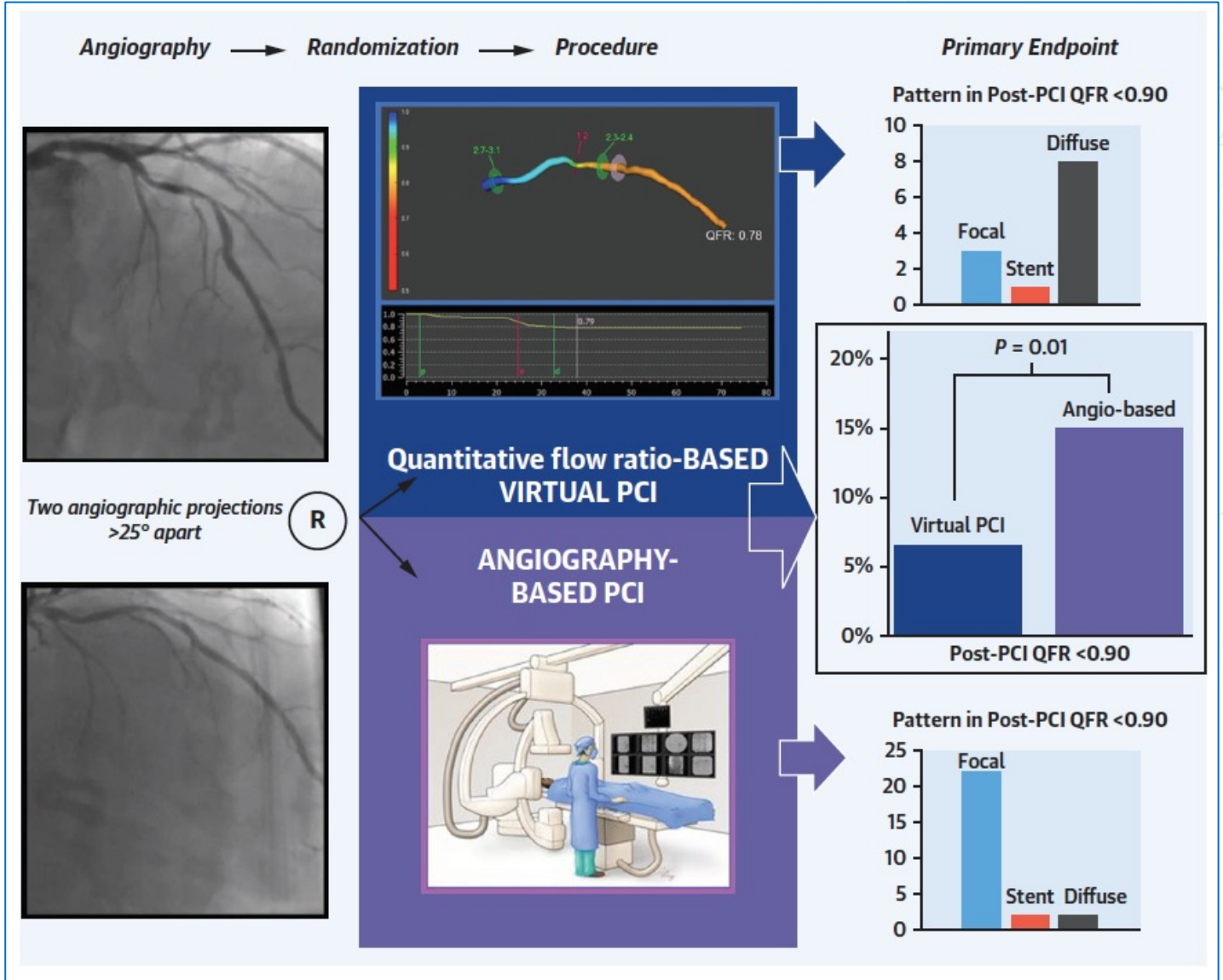
3  
The filament-like structure of the eG<sup>™</sup> coating allows interdigitation of the PLGA coating, forming a strong bond.



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Innovation for health



# Virtual PCI



## Next step

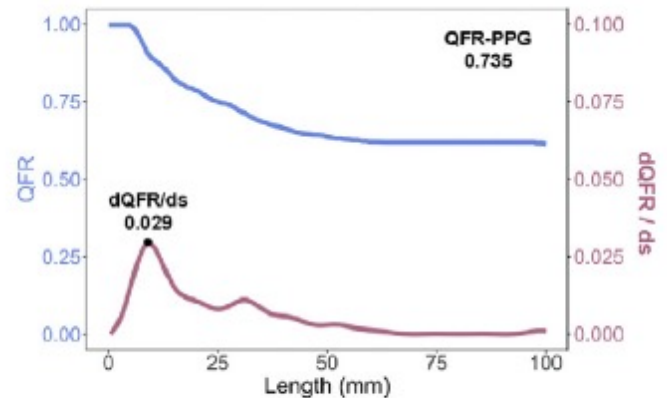
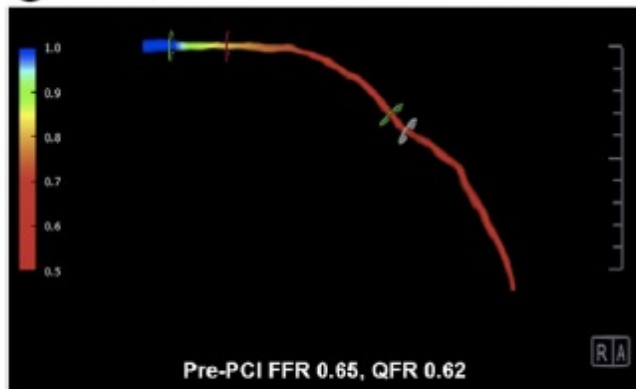
**Vessel-oriented composite endpoint (VOCE):**  
 Vessel-related cardiac death  
 vessel-related MI,  
 target vessel revascularization

300 patients were randomized 1:1

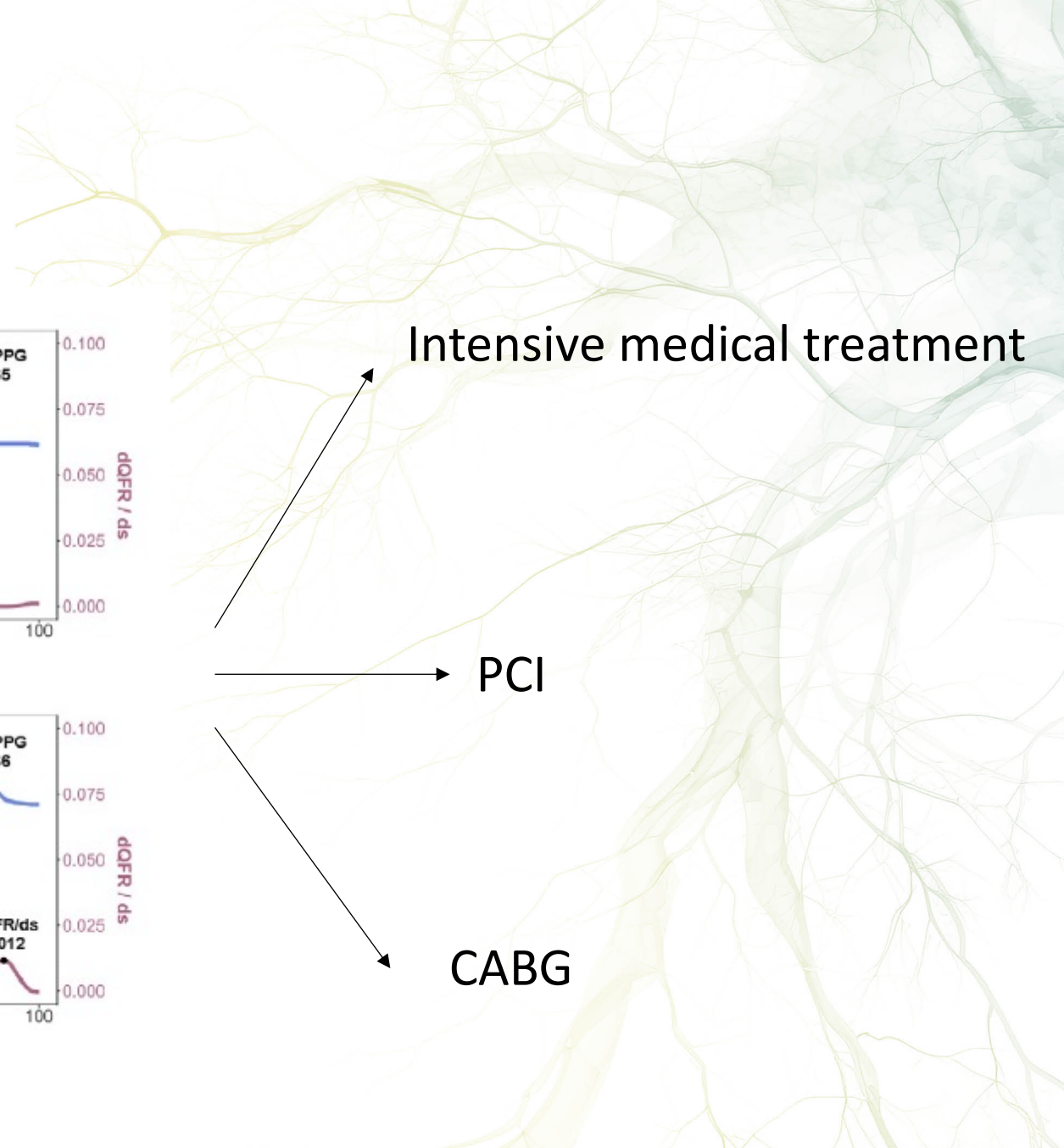
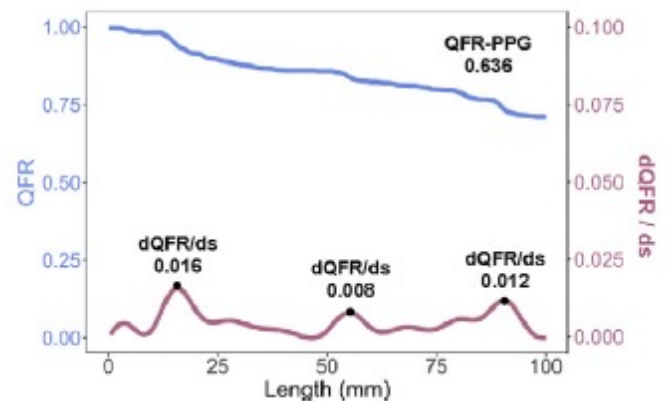
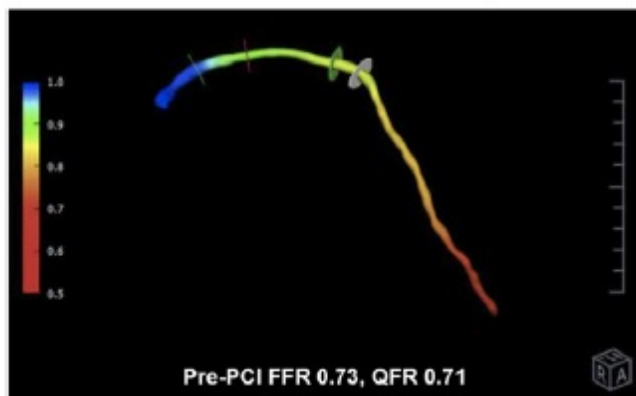


# Diffuses lesions

**C** Predominant Diffuse with Major Gradient



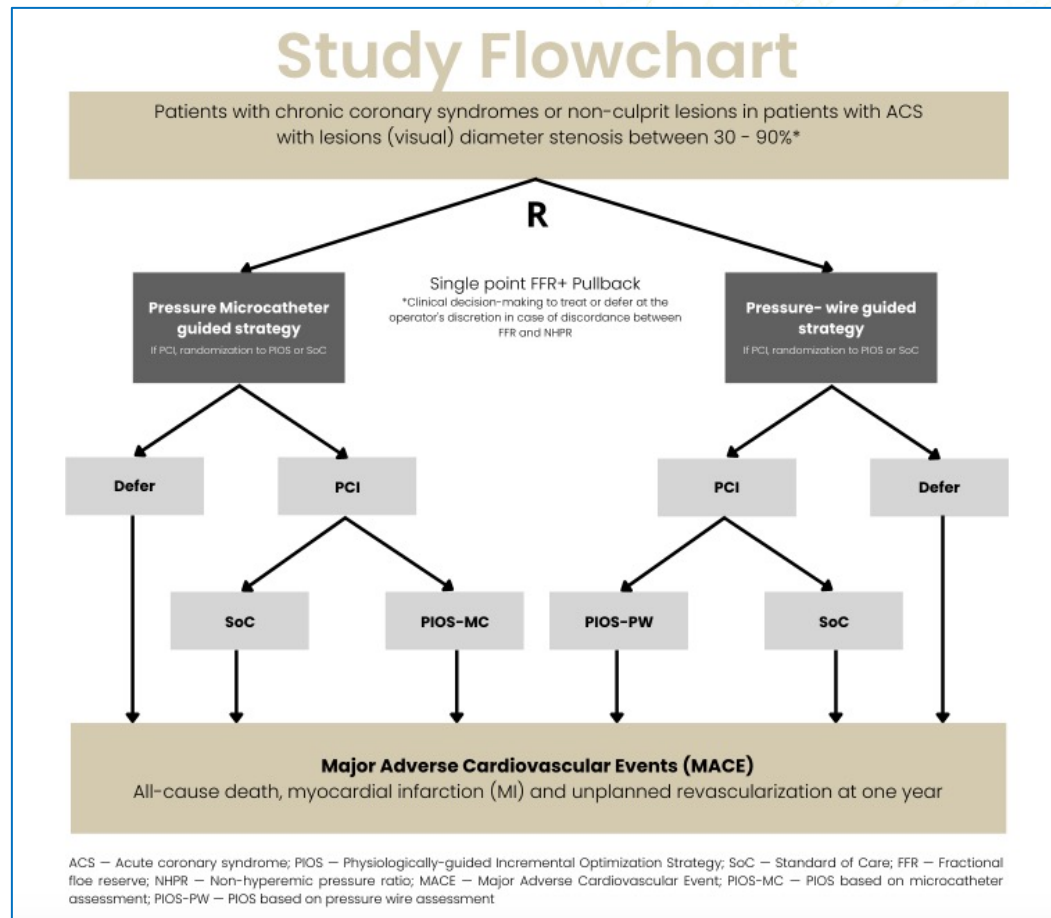
**D** Predominant Diffuse without Major Gradient





# INSIGHTFUL-FFR Clinical Trial

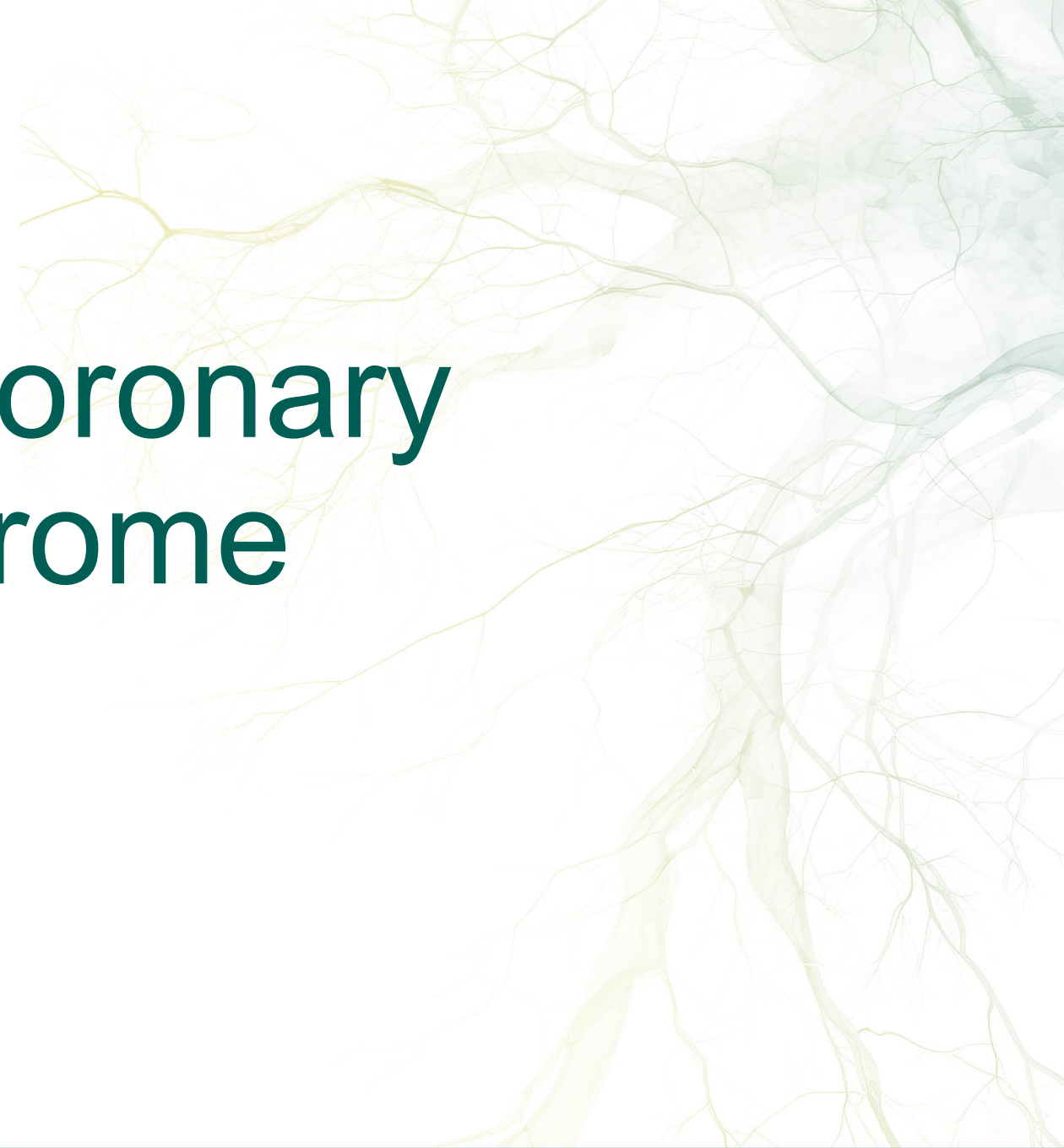
2500 subjects will be enrolled in up to 35 sites in the EU and China.







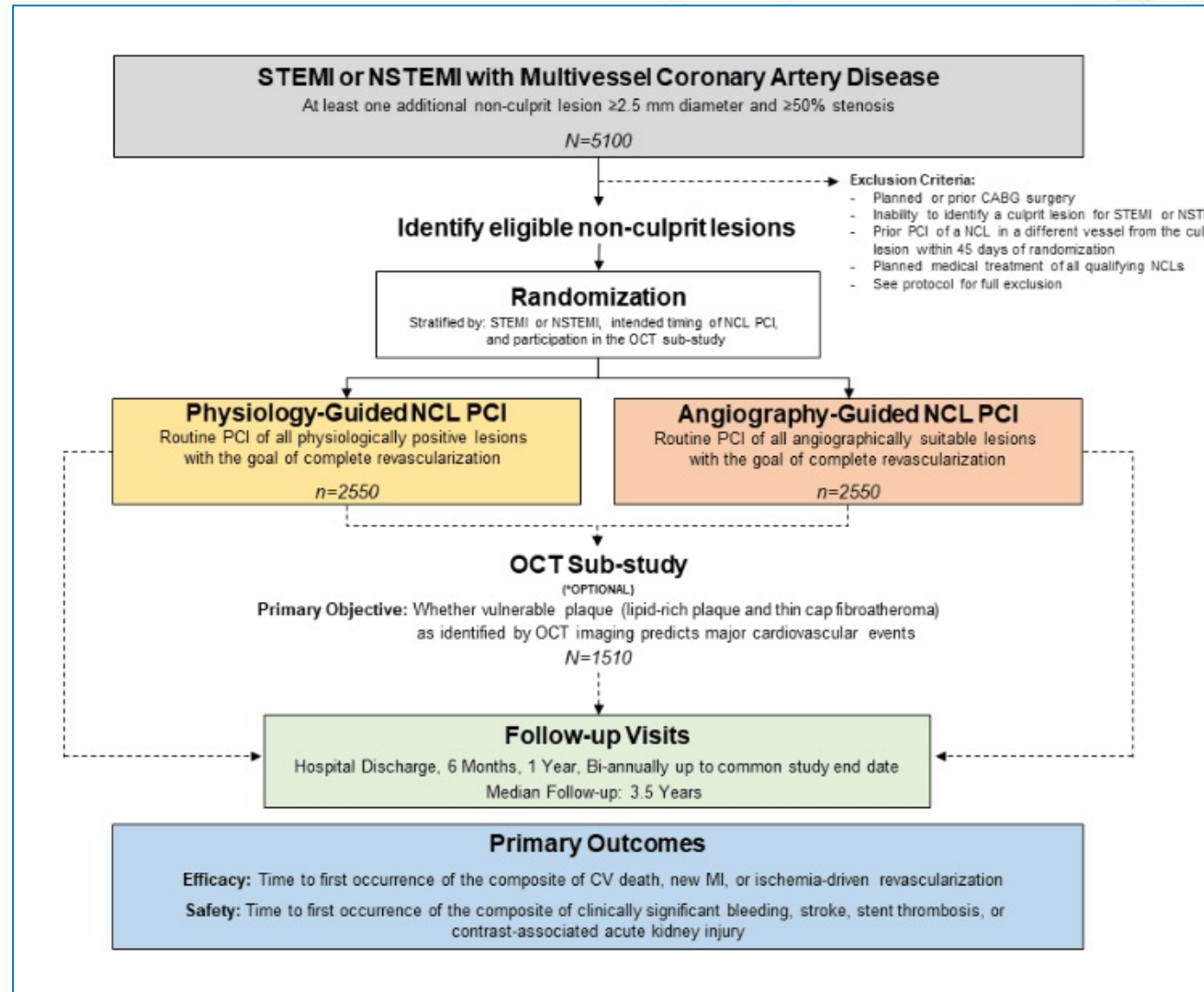
# Acute Coronary Syndrome







# COMPLETE-2





# Microvascular Diseases





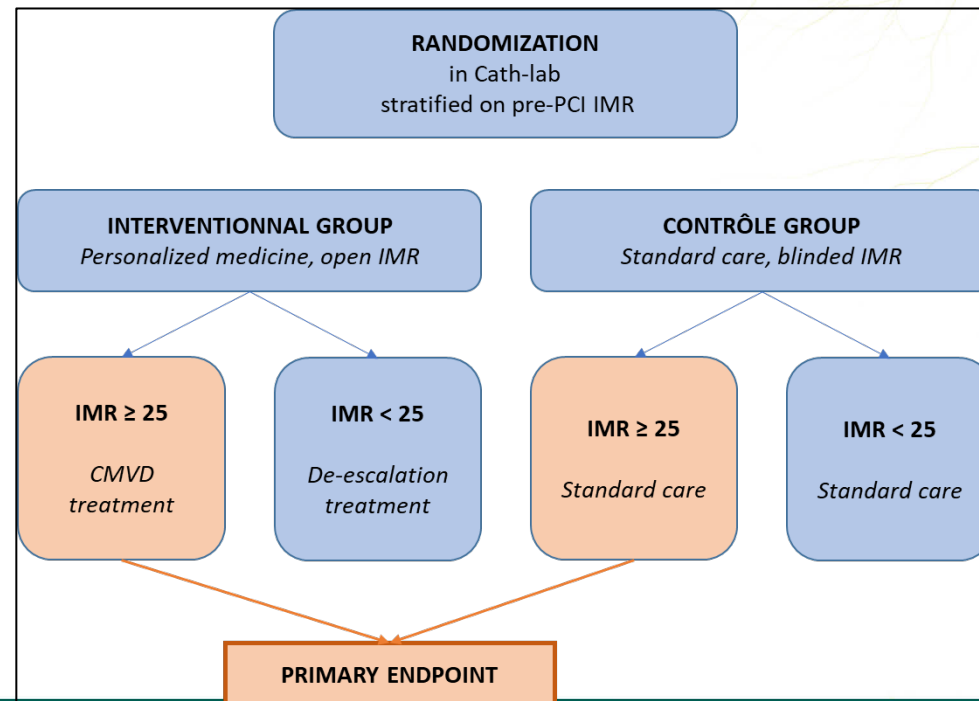
# Future: Randomized studies

## Acute coronary syndrome

A Study of Low-dose Intracoronary Thrombolytic Therapy in STEMI (Heart Attack) Patients. (RESTORE-MI)  
NCT03998319. 506 patients. STEMI IMR > 32 low, or very low dose tenecteplase vs placebo- Australia

## Chronic coronary syndrome

Personalized Medicine Using Coronary Microvascular Function Measured in Patient with Percutaneous Coronary Intervention in Angina. (DECISIONING) – France





# Cormica study Cost effectiveness

Invasive coronary angiogram Stenosis < 50% and **symptoms**

Cormica strategy

Standard Care

Conduct a cost-utility analysis (CUA) comparing the strategy « Cormica » to the strategy « standard care » in patients with suspected ANOCA/INOCA in a collective perspective, at 1 year.

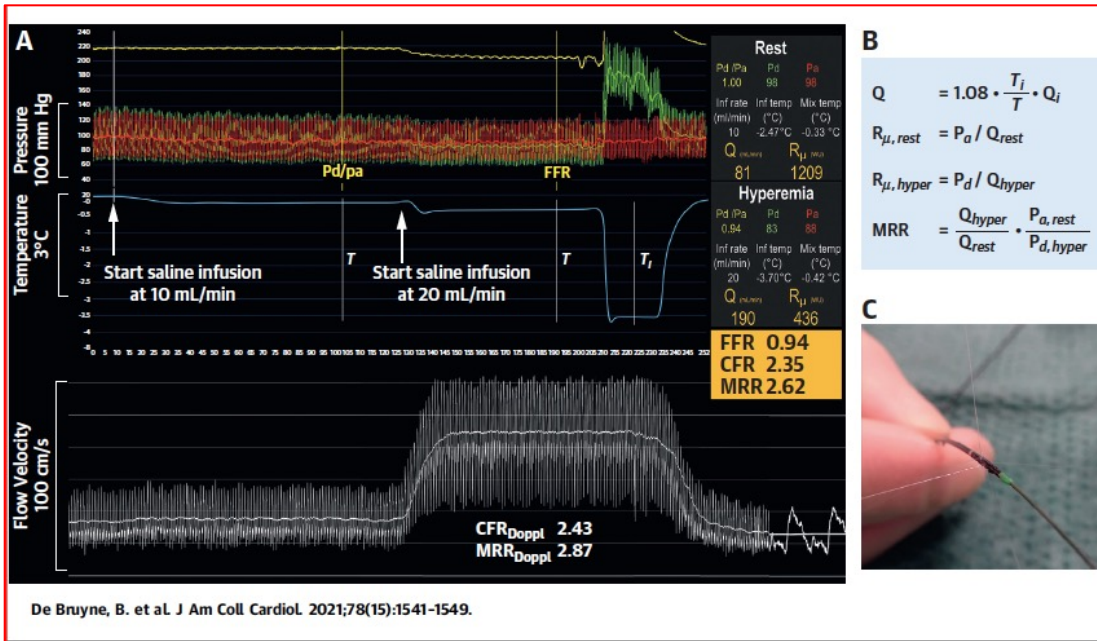
Same methodology of SOCRATES [NCT05369728](#)



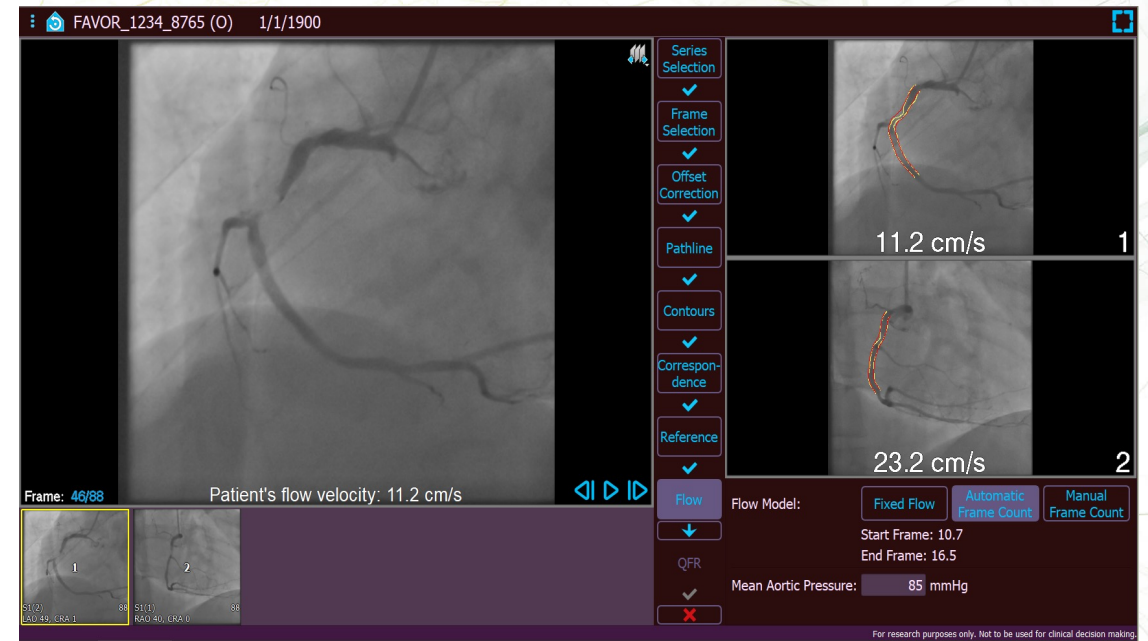


# Future: More precise or more simple ?

## Microvascular resistance reserve



## IMR angio



### Microvascular resistance reserve:

independent of autoregulation and myocardial mass, and based on operator-independent measurements of absolute values of coronary flow and pressure

**Answer: clinical trials**

### Vessel QFR Results

	Contrast	Fixed Flow	
Vessel QFR	<b>0.75</b>	0.69	
QFR at Index	0.75	0.69	at 29.5 mm
Resistance	83.07		mmHg*s/m
Flow Velocity	11.2	18.6	cm/s
IMRangio	24.02		mmHg*s