

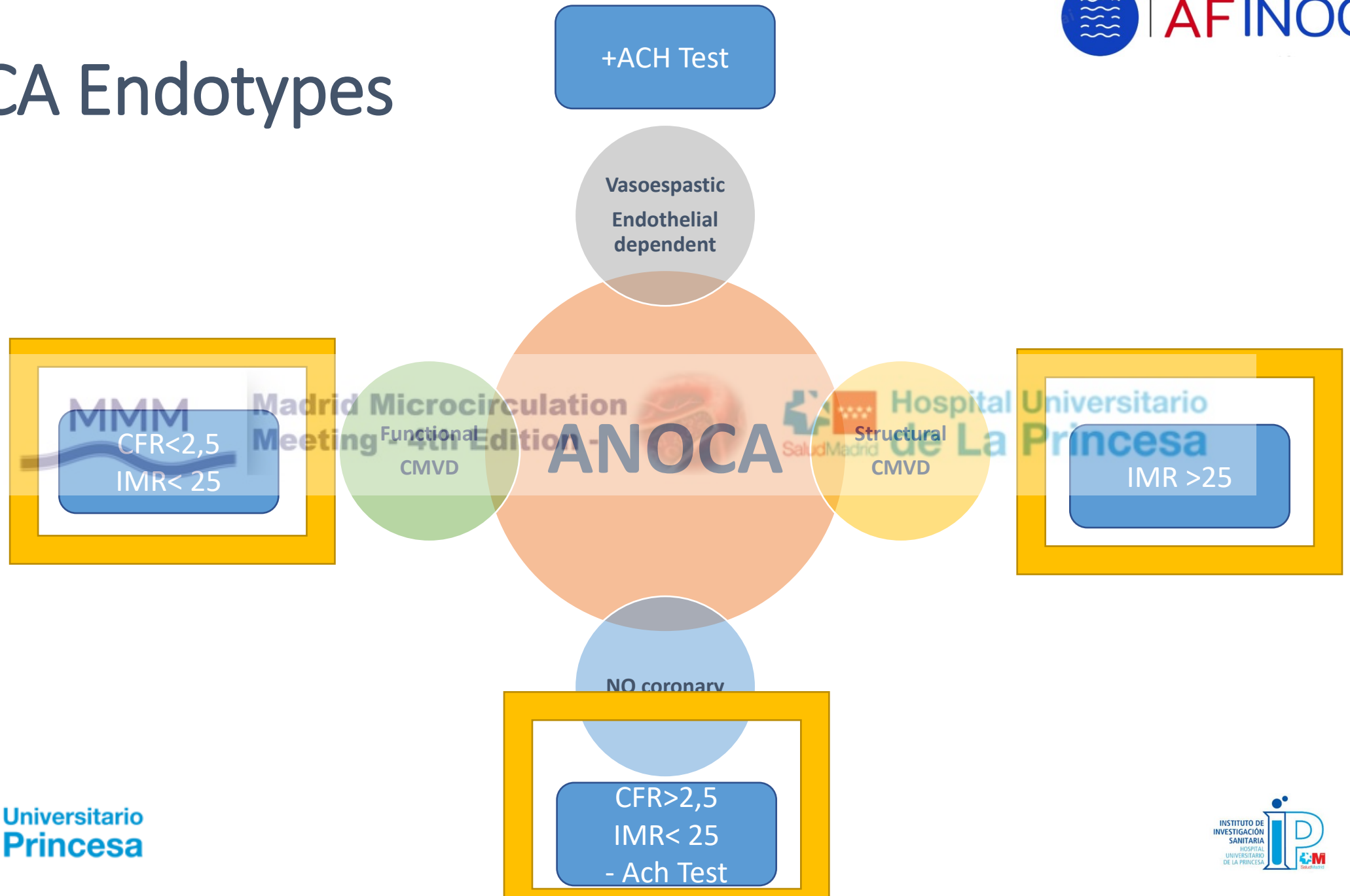


AFINOCA

Absolute Flow for the Diagnosis of Microvascular Dysfunction in Patients with Ischemia and Non-obstructive Coronary Lesions

NCT05825339

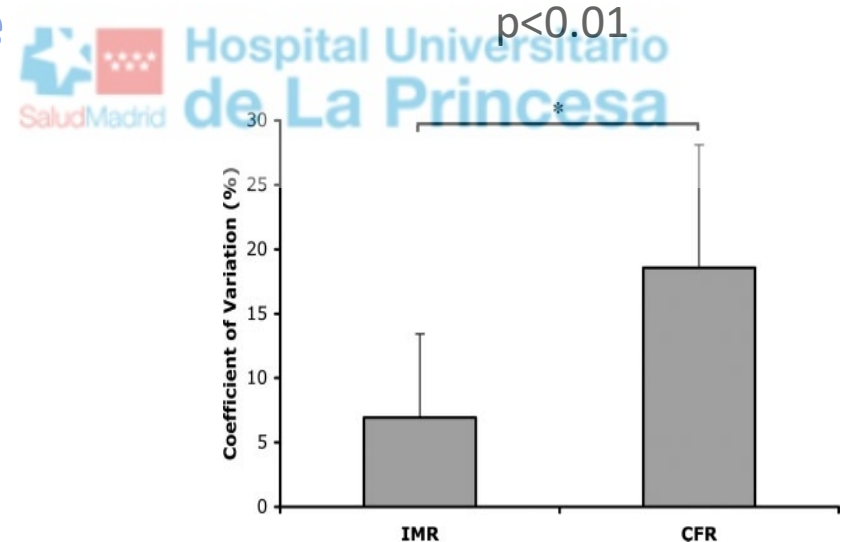
ANOCA Endotypes



Background

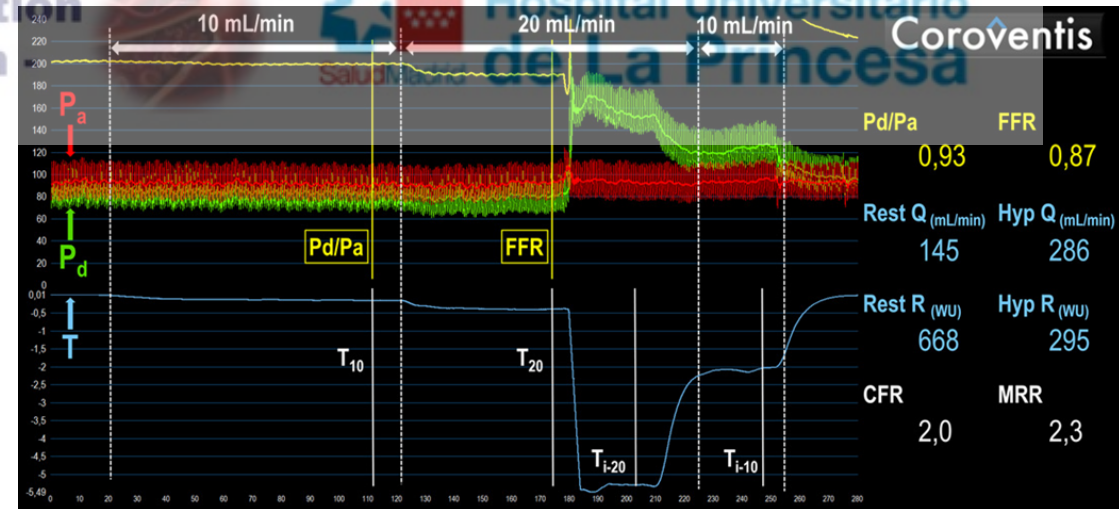
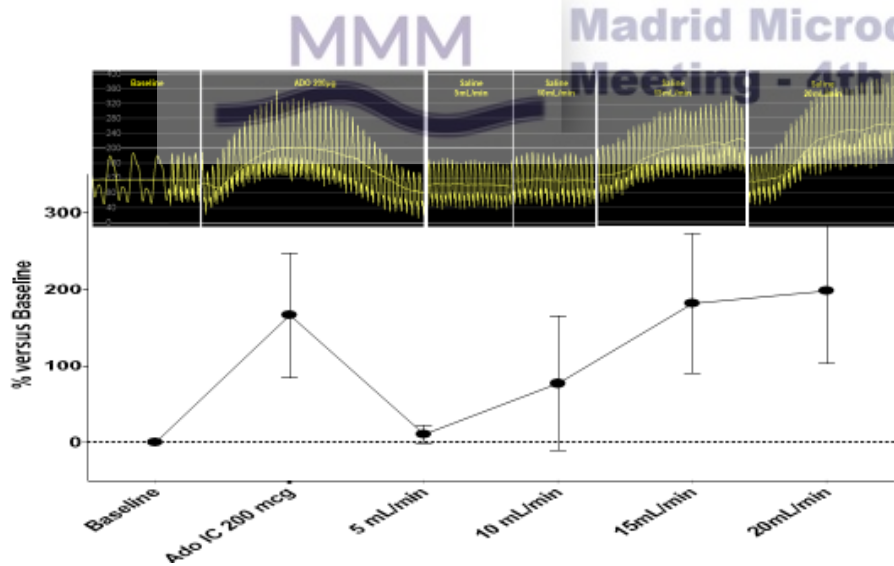
Bolus thermodilution techniques are the current evidence basis for the diagnostic of CMVD (CFR + IMR).

- **CFR shows high variability**
 - Blood pressure
 - Heart rate
 - Vessel diameter
 - Age
 - Epicardial disease
- **IMR is high reproducible**
 - Operator dependent
 - Injection technique
 - Media of several TT



Background

- **AF & MMR are accurate and reproducible** (but myocardial mass dependent)
- **Threshold of 500 WU of MMR correlates with IMR>25** (in LAD)
- **Saline infussion <15 ml/min does not induce hyperemic response**
- **CFR using continuous thermodilution could be measured.**



De Bruyne B et al *Circ Cardiovasc Interv.* 2018

Rivero F, et al *IJC* 2021

Gutiérrez-Barrios A et al *AJC* 2020

Candrea et al *Cathet Cardio Intervent* 2022

Background

- **MRR (obtained by CTD) seems a robust indicator of the microvascular vasodilator reserve capacity.**
- **Variability of continuous-derived CFR and MRR is significantly smaller than of the bolus-derived CFR, IMR and RRR.**

Objectives

The goal is to investigate the feasibility of CFR assessment using continuous thermodilution

Hypothesis : $CFR_{flow} < 2$ is associated with a worse angina status than $CFR_{flow} > 2$

Secondary Objectives:

- Correlation between CFR by Continuous & Bolus Thermodilution
- AF value in LAD to predict clinical status.
- Validate MMR >500 WU as a predictor of MVD.
- IMR/MRR correlation



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Clinical Objectives

- **ANOCA endotype: Epidemiological characteristics of each profile**
- **Baseline and evolutive angina status in each endotype**
- **Response to treatment in each endotype**
- **Prevalence of atherosclerosis and epicardial plaque phenotype in patients with MVD (OCT substudy)**

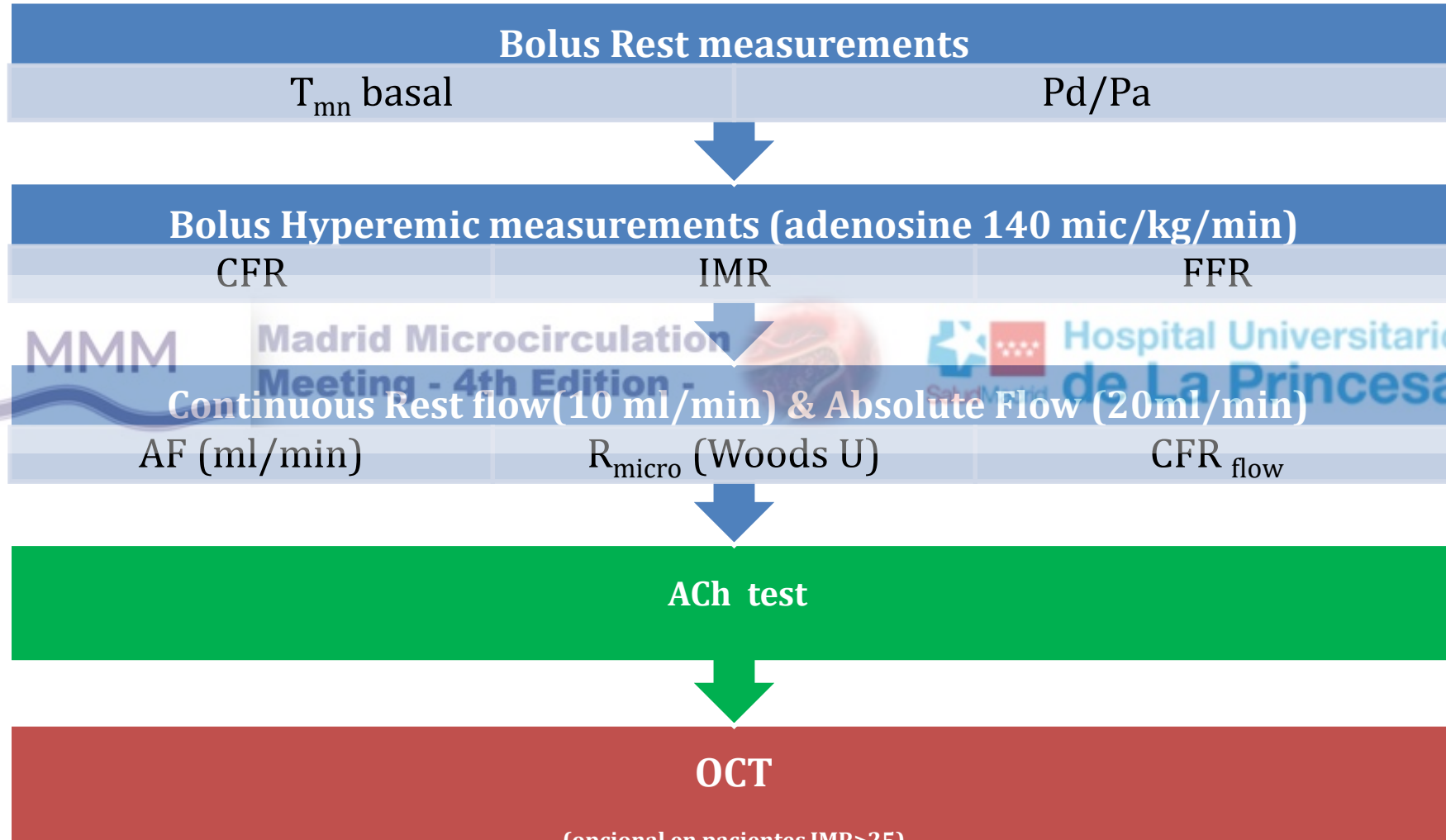
Inclusion criteria (n=140)

- **Typical effort angina ± Positive ischemia test**
- **Non-Typical effort angina + Positive Ischemia test**

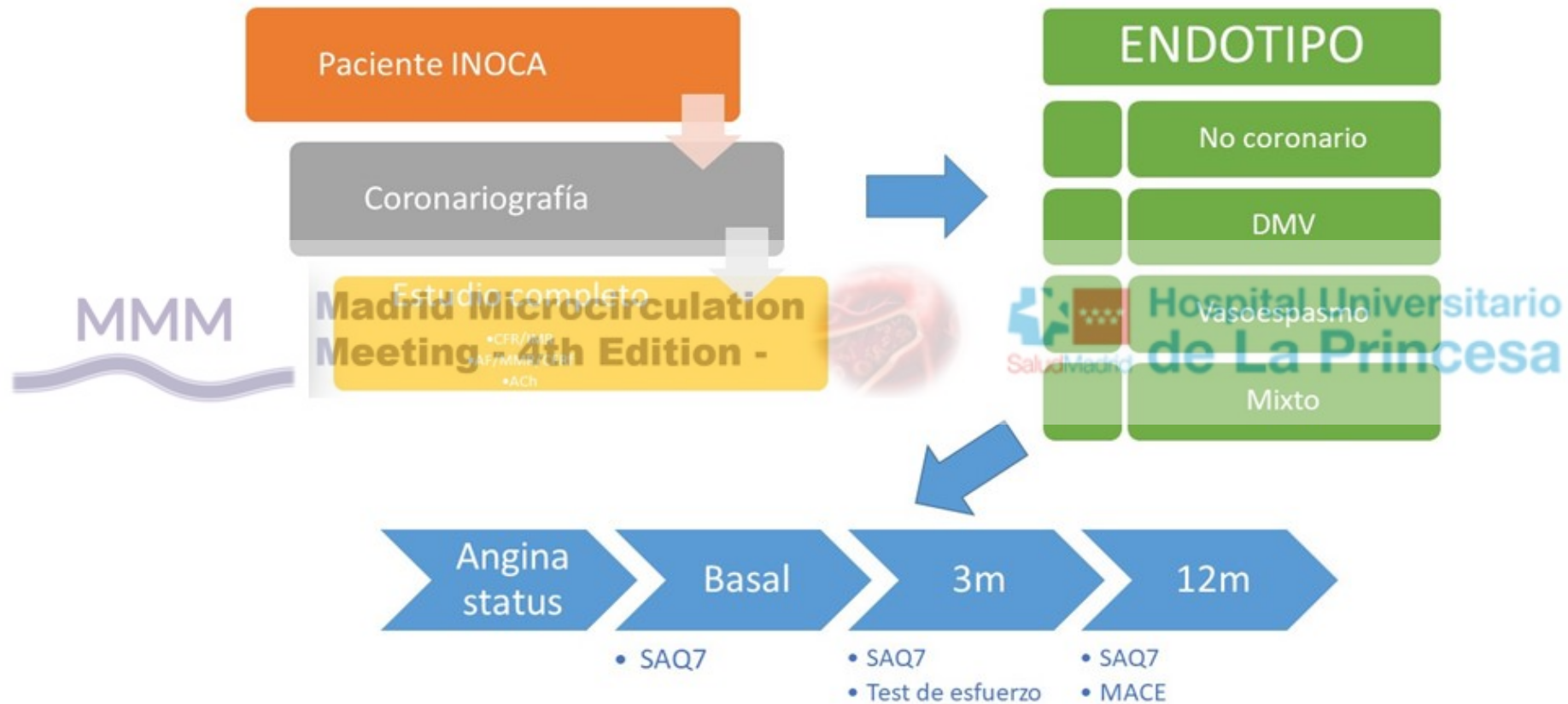


- **Coronary arteries without lesions or with epicardial lesions <50% by visual estimation or FFR>0.80**

Invasive evaluation

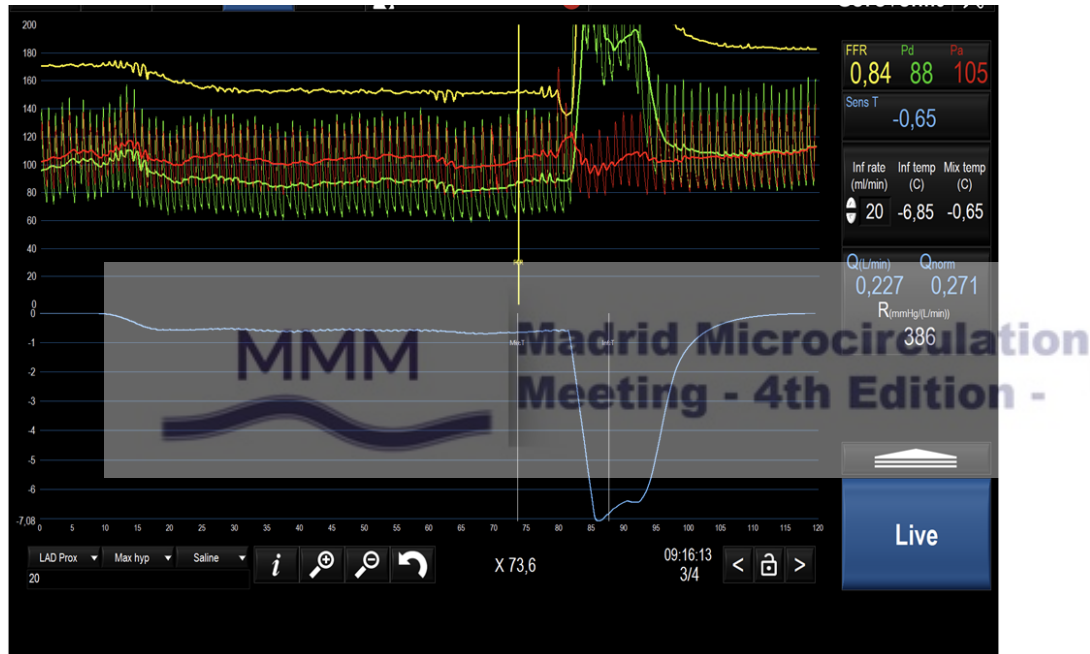
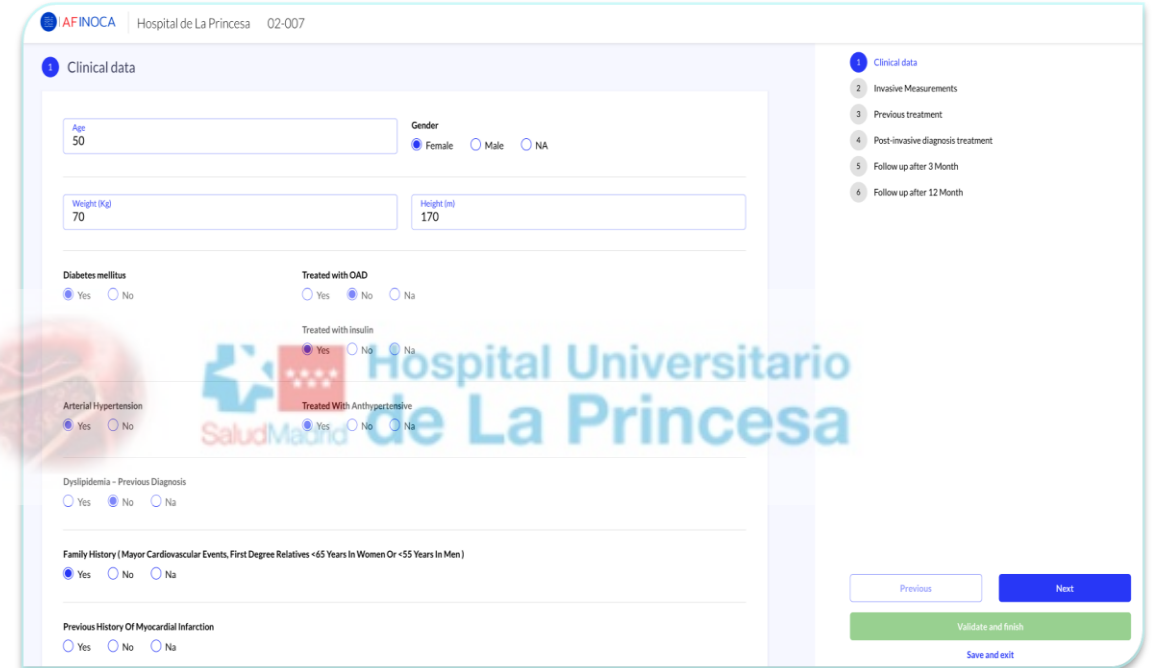


Clinical evaluation



Coroventis blinded corelab

eCRF

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1 Clinical data
 Age: 50 Gender: Female Male NA
 Weight (Kg): 70 Height (m): 170
 Diabetes mellitus: Yes No
 Treated with OAD: Yes No Na
 Treated with insulin: Yes No Na
 Arterial Hypertension: Yes No
 Treated With Antihypertensive: Yes No Na
 Dyslipidemia - Previous Diagnosis: Yes No Na
 Family History (Major Cardiovascular Events, First Degree Relatives <65 Years In Women Or <55 Years In Men): Yes No Na
 Previous History Of Myocardial Infarction: Yes No Na
 Previous Next Validate and finish Save and exit

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149 ANOCA PATIENTS



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CLINICAL PROFILE 149 patients

Age	64 y ± 9
♂	71%
DM	28%
HTN	60%
Hypercholesterolemia	43%
Smoker	11%
Previous PCI	5%



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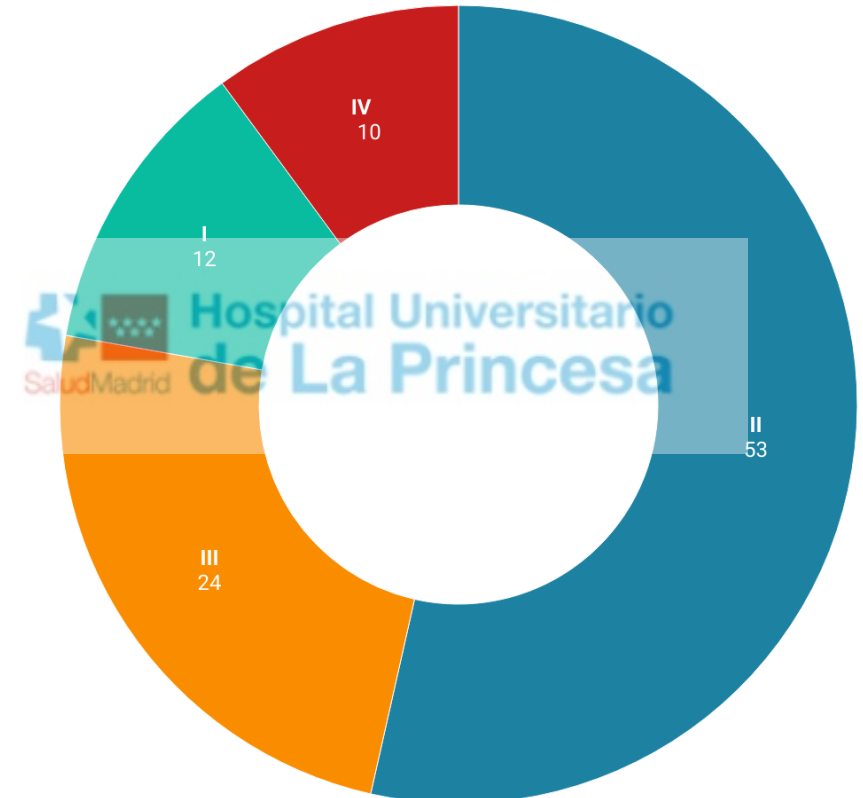
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CLINICAL PROFILE 149 patients

Angina CCS ≥ 2	88%
Effort angina	90%
Ischemia Test	57%
Positive Ischemia Test	68%
Mean LVEF	64 %

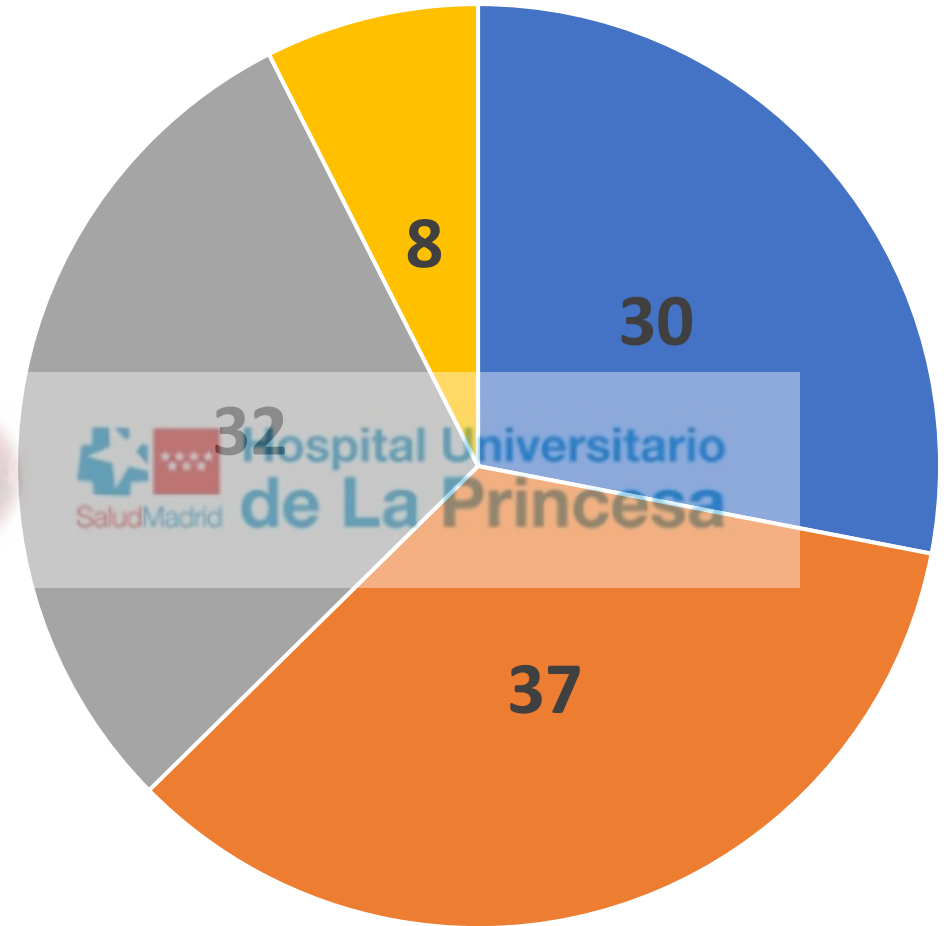
CCS class

■ II ■ III ■ I ■ IV



ANGIOGRAPHIC & CLINICAL PROFILE 149 patients

Prox LAD mean diameter	3,6mm
LAD myocardial bridge	7% (3% milking)
Treatment change after invasive evaluation	73%



■ Non coronary ■ CMVD ■ Spasm ■ Mixed

Functional profile (Corelab Analysis) in 72 patients

Bolus TD	
Pd/Pa	0.95 ± 0,02
FFR	0.92 ± 0,04
IMR	20 ± 12
CFR	2.6 ± 0,89
CFR<2.0	40%



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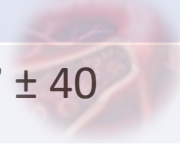
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Functional profile (Corelab Analysis) in the first 72 patients

Continuous TD	
Pd/Pa	0.95 ± 0,03
FFR	0.91 ± 0,05
Resting Flow (ml/min)	102 ± 47
Hyperemic Flow (ml/min)	197 ± 40
Resting Resistances (WU)	1024 ± 441
Hyperemic Resistances (WU)	464 ± 142
CFR_{flow}	2.01 ± 0.67
MRR	2.38 ± 0,90



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Functional profile (Corelab Analysis) in first 72 patients

Bolus TD	Bolus TD	Continuous TD
Pd/Pa	0.95 ± 0,02	0.95 ± 0,03
FFR	0.92 ± 0,04	0.91 ± 0,05
CFR	2.6 ± 0,89	2.0 ± 0,67
CFR<2.0	40%	62%
Resistances (IMR>25 vs MRR<2.5)	18%	56%

Conclusions

- **CFR assessed by continuous thermodilutios is feasible.**
- **Invasive investigation allows diagnosing the presence of CMD in the majority of patients with ANOCA.**
- **Results allowed a tailored therapy in three out of every four patients.**
- **Important differences were found in CFR and resistance measurements between both methods.**
- **These are preliminary results, and we will have to wait for the analysis of the complete sample.**



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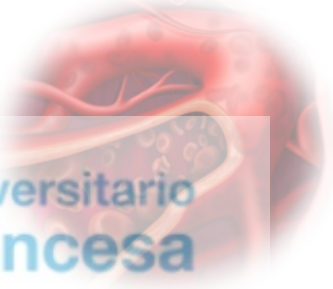


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