

# The Winner

Pusan National University Yangsan Hospital  
Cardiovascular center

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# A 50-years olds man

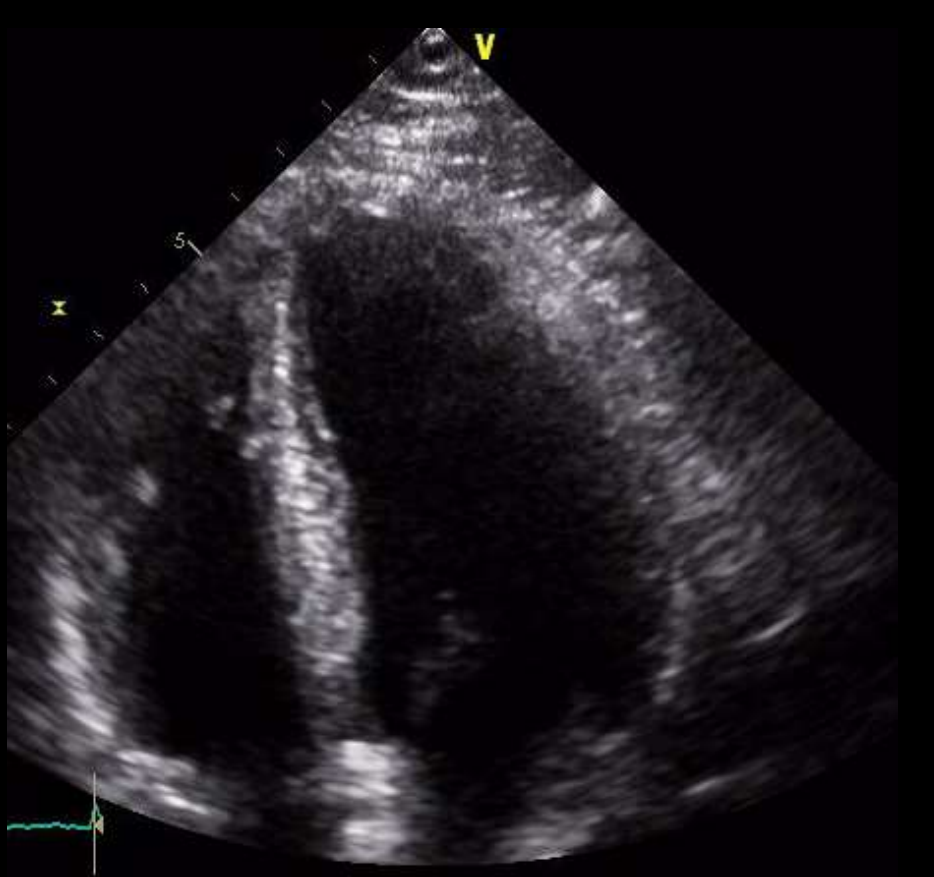
C.C : abnormal Coronary CT Angiography  
(CCTA)

Symptoms : **none**

P.Hx : none

S.Hx : smoking (+)

# Echo

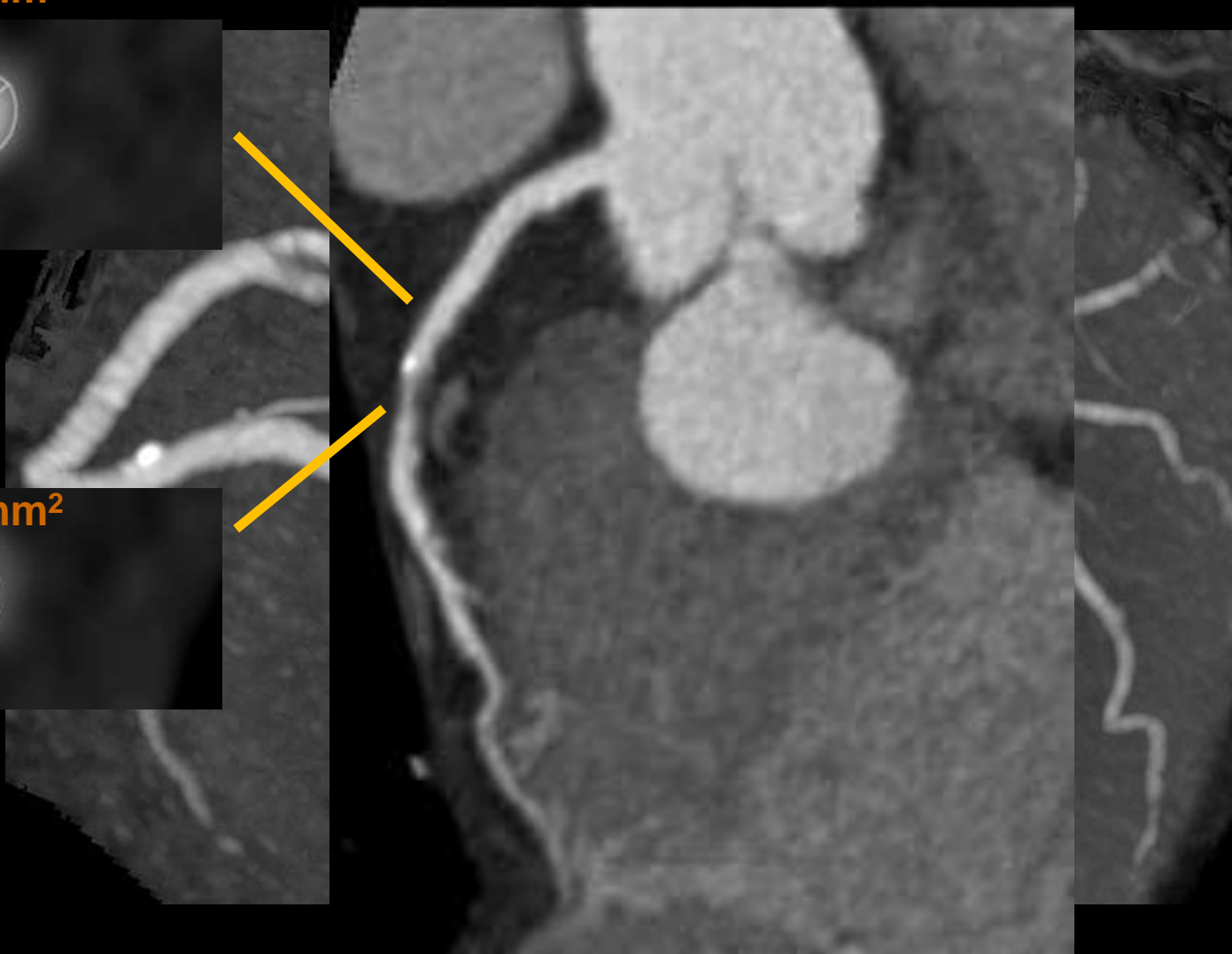


# CCTA

6.32 mm<sup>2</sup>



2.77 mm<sup>2</sup>



# What's next step ?

A. Nothing to do

B. Invasive coronary angiography

C. Treadmill Test

D. Cardiac MRI

# TMT

% Target : 100 %

METs : 14.0

Symptoms : None

13:51 EXER

8.1 km/h

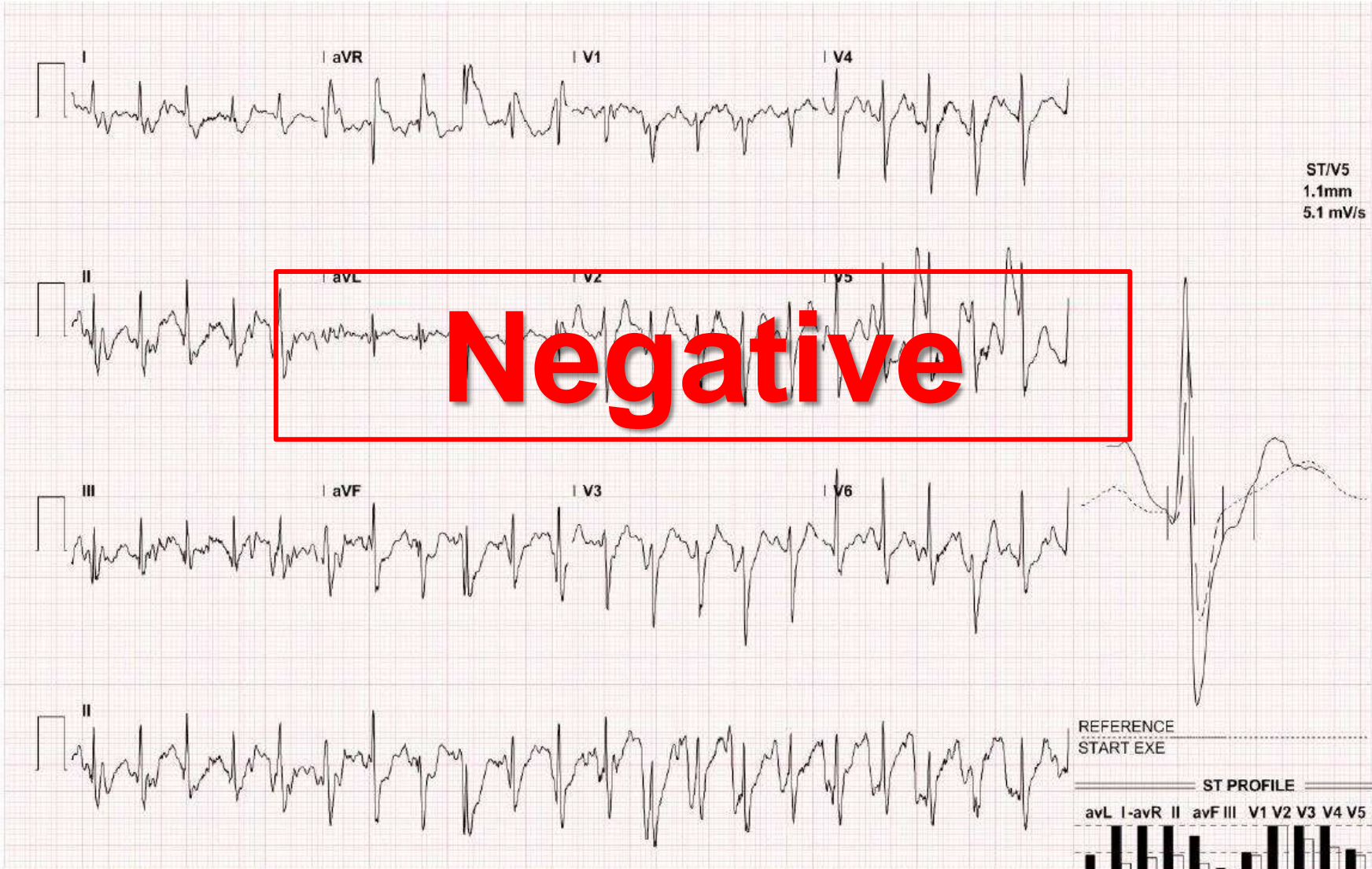
RATE 172

01:51 STAGE 5

18.0 %

BP 194/81

EXE 11:30

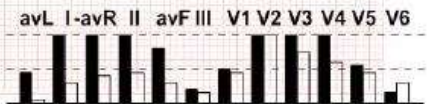


**Negative**

Peak Exe

REFERENCE  
START EXE

ST PROFILE



# What's the next choice ?

A. Nothing to do

B. Invasive coronary angiography

C. Medical treatment

D. Cardiac MRI

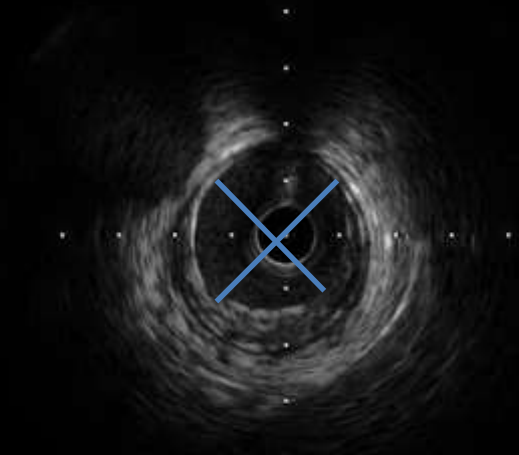
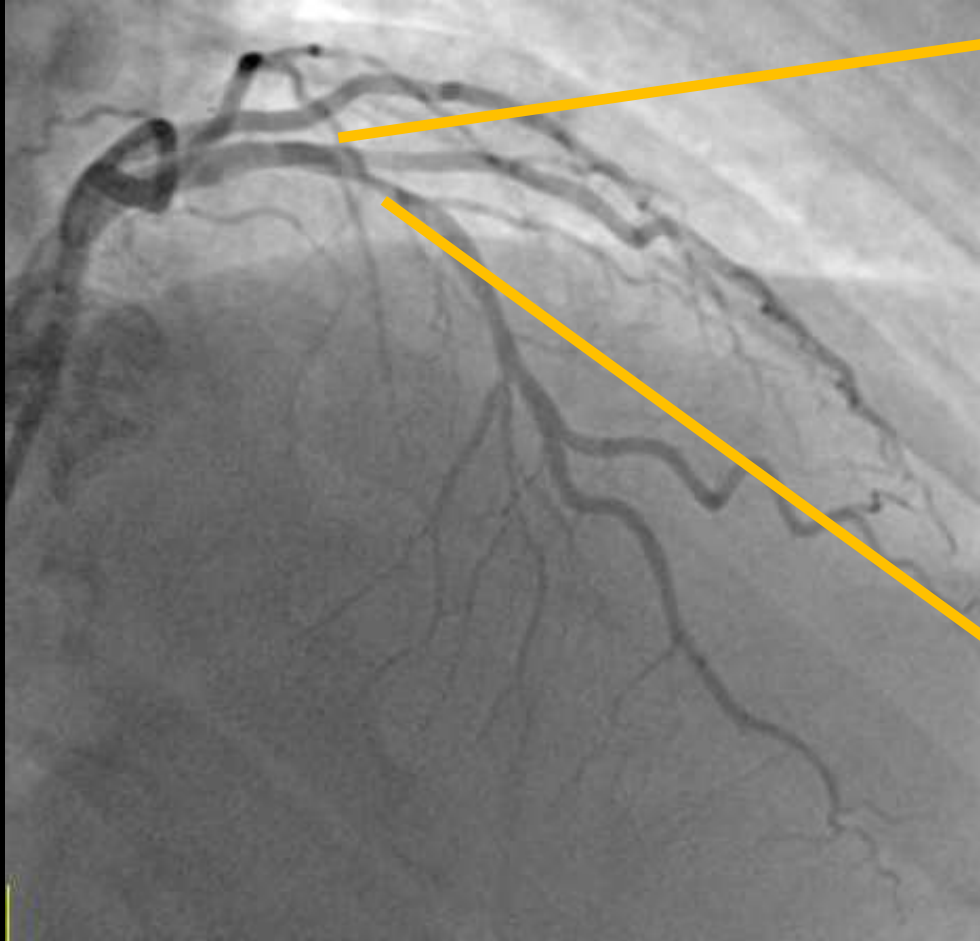


# CAG

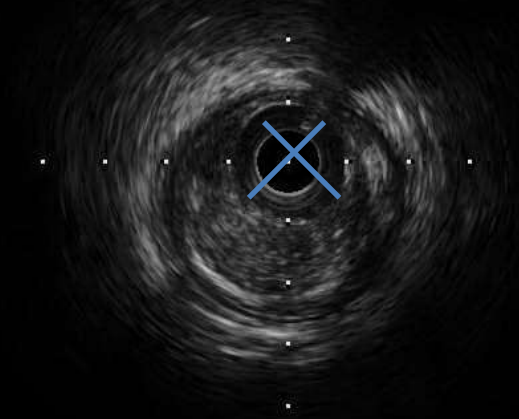




# IVUS



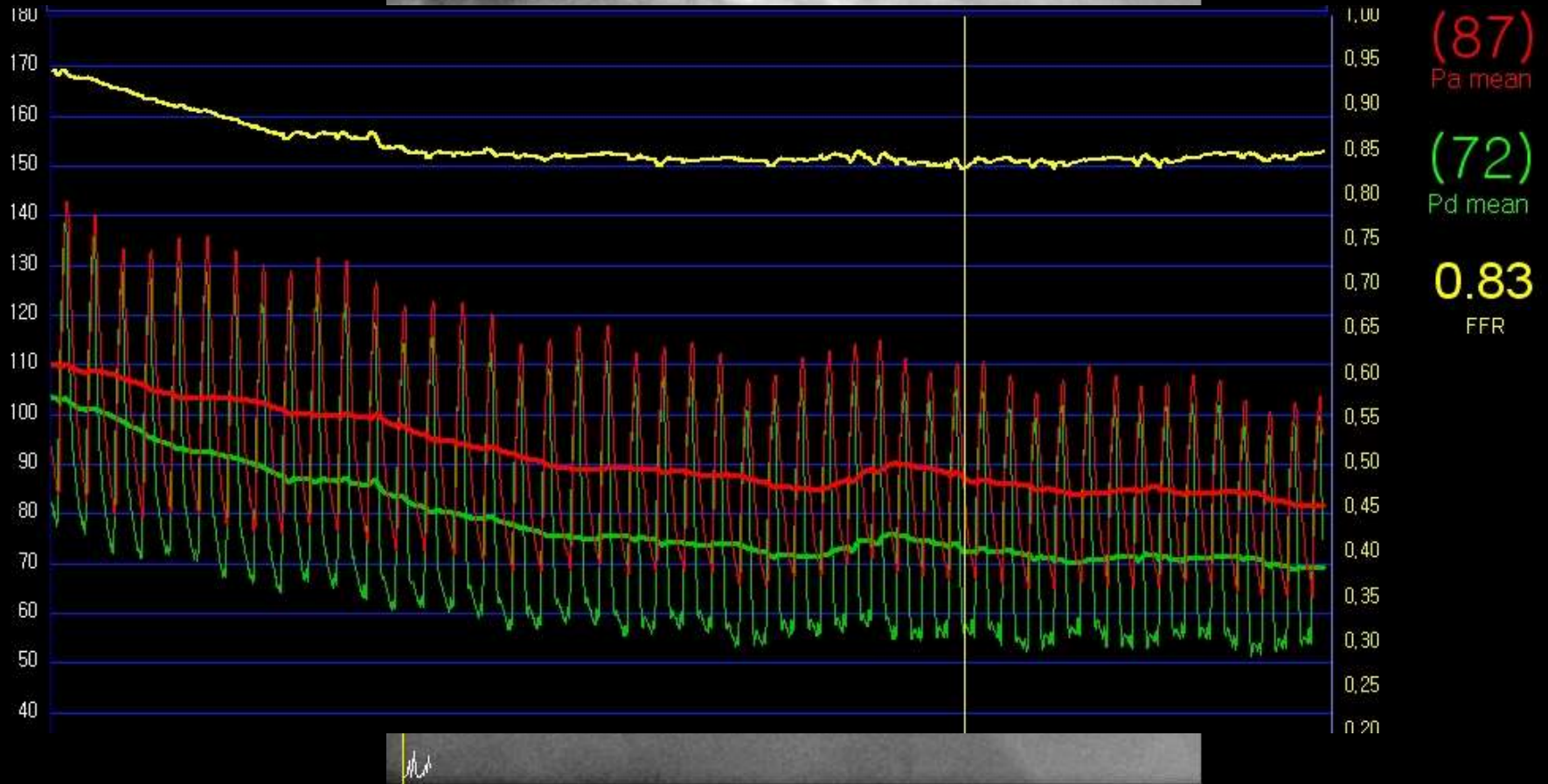
**MLA : 2.53mm<sup>2</sup> (77% AS)**



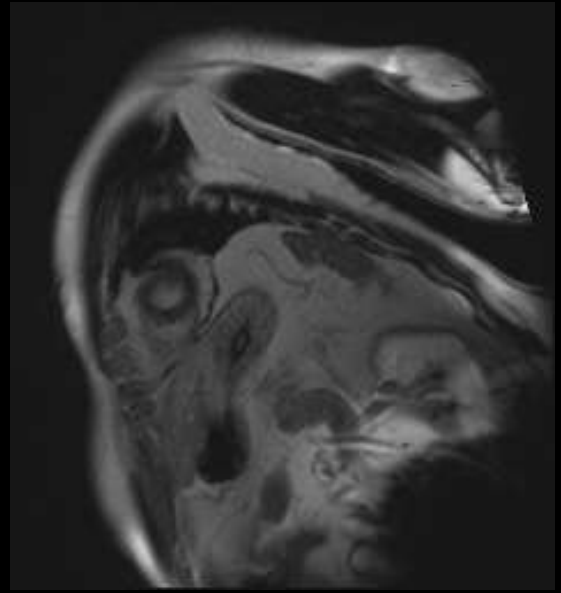
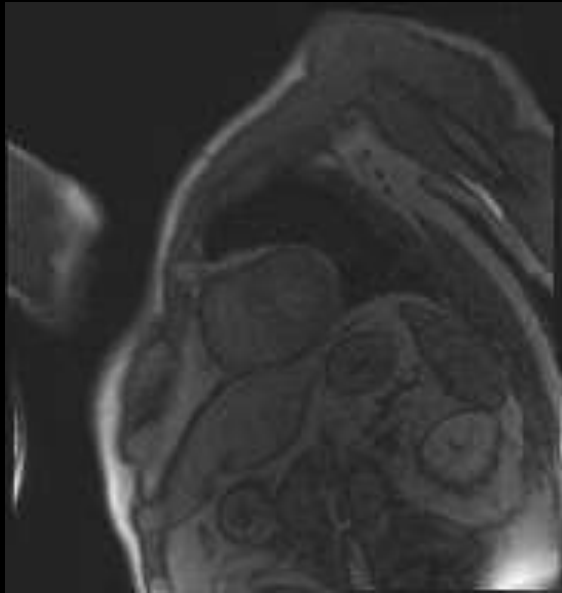
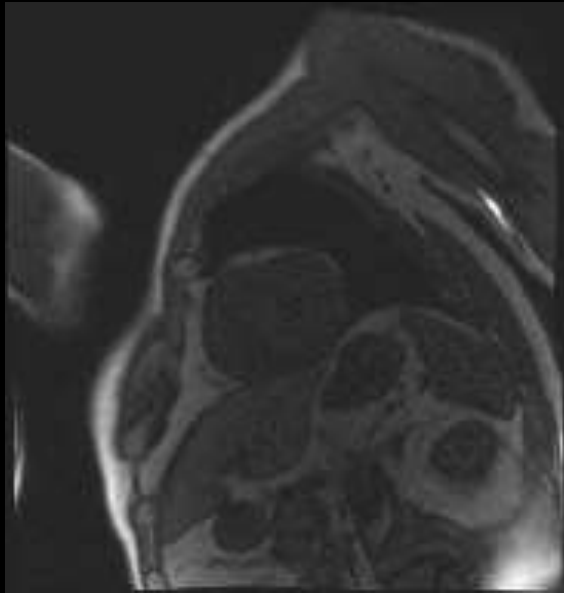
# What's the next plan ?

- A. Nothing to do
- B. Percutaneous coronary intervention
- C. Cardiac MRI
- D. Fractional flow reserve (FFR) study

# FFR



# CMR



# What's your conclusion ?

A. Observation

B. Optimal medical treatment

C. Percutaneous coronary intervention

To approach the patient **without symptoms**,  
we may consider which diagnostic  
methods are proper.



Specificity & Sensitivity

Time & Cost effectiveness

Radiation

Using contrast media

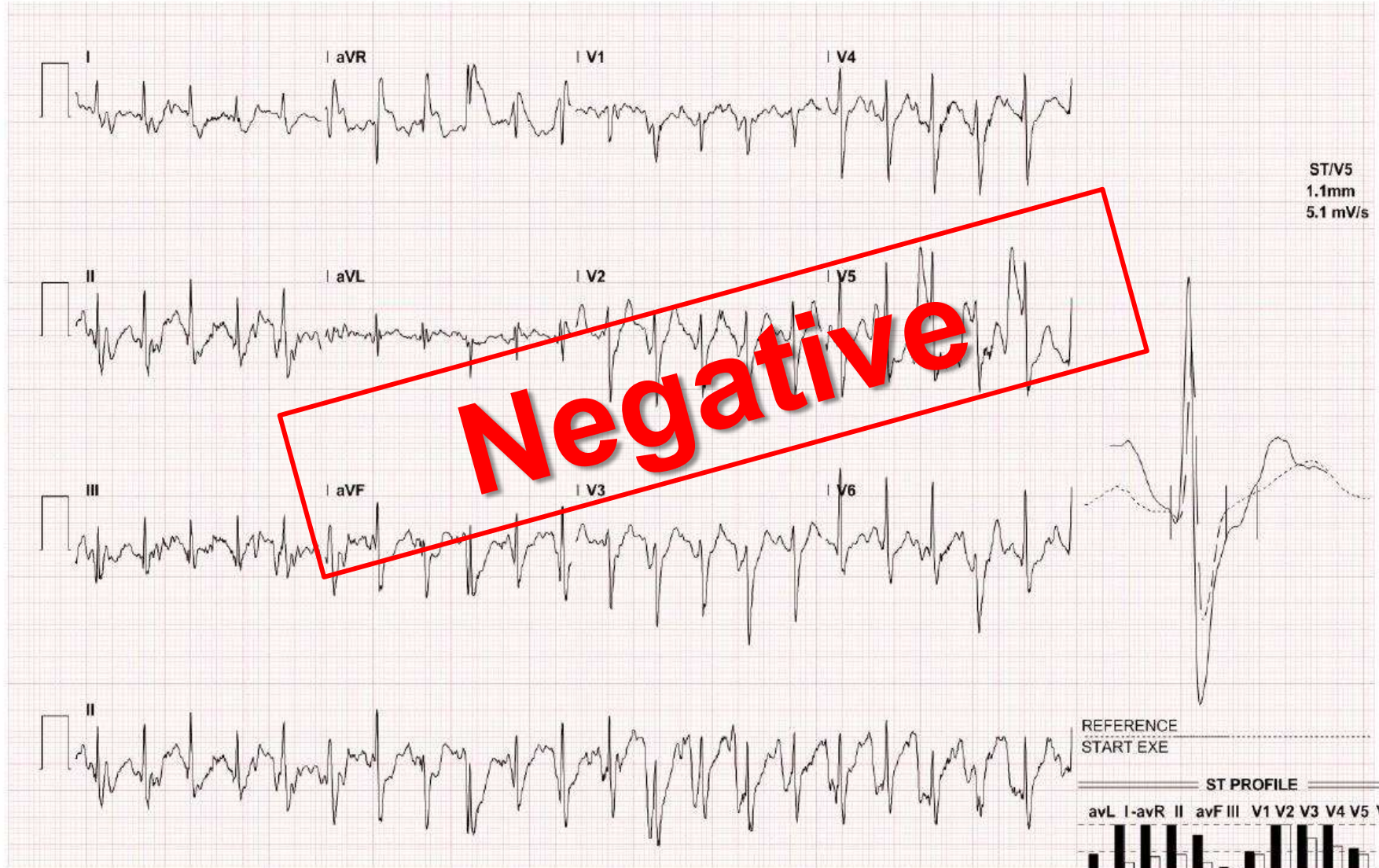
Others

**The Winner is ...**

13:51 EXER  
01:51 STAGE 5

8.1 km/h  
18.0 %

RATE 172  
BP 194/81  
EXE 11:30



Peak Exe

# Symptoms

**Thank you**  
**for**  
**your attention**

# TMT

Sensitivity : 68%

Specificity : 77%

Rate of nondiagnostic tests : 17%

- *Circulation* 2002;106(14):1883-92 -

- *NEJM* 2002;346(11):793-801 -

# CCTA

Agreement of CAD severity in 88% among asymptomatic patients

- *JAMA* 2008; 10:627-633 -

Screening CCTA should not be considered a justifiable test in low-risk patients

- *Arch Intern Med* 2011;171(14):1260-1268 -

CCTA may have a potential role in identifying patients with high cardiovascular risks in asymptomatic type 2 DM

- *Am J Cardiol* 2014;113:765-771 -

# FFR

Paradigm shift to functional angioplasty

FFR > 0.8, Deferral of PCI

- *Circulation* 2011;124:951-957 -

FFR-guided PCI vs Medical Tx. In stable  
coronary ds.

- *NEJM* 2012;367:991-1001 -



# IVUS

IVUS-derived MLA  $\geq 2.4\text{mm}^2$  may be useful  
to exclude FFR  $< 0.80$

- *Cir Cardiovasc Interv* 2011;4:65-71 -

# CMR

Stress CMR has a high negative predictive value for adverse cardiac events

- *Cir Cardiovasc Imaging* 2013;6:574-582 -

A negative stress CMR study is associated with very low risk of cardiovascular death and MI

- *J Am Coll Cardiol* 2013;62(9) -