Mismatch Disease

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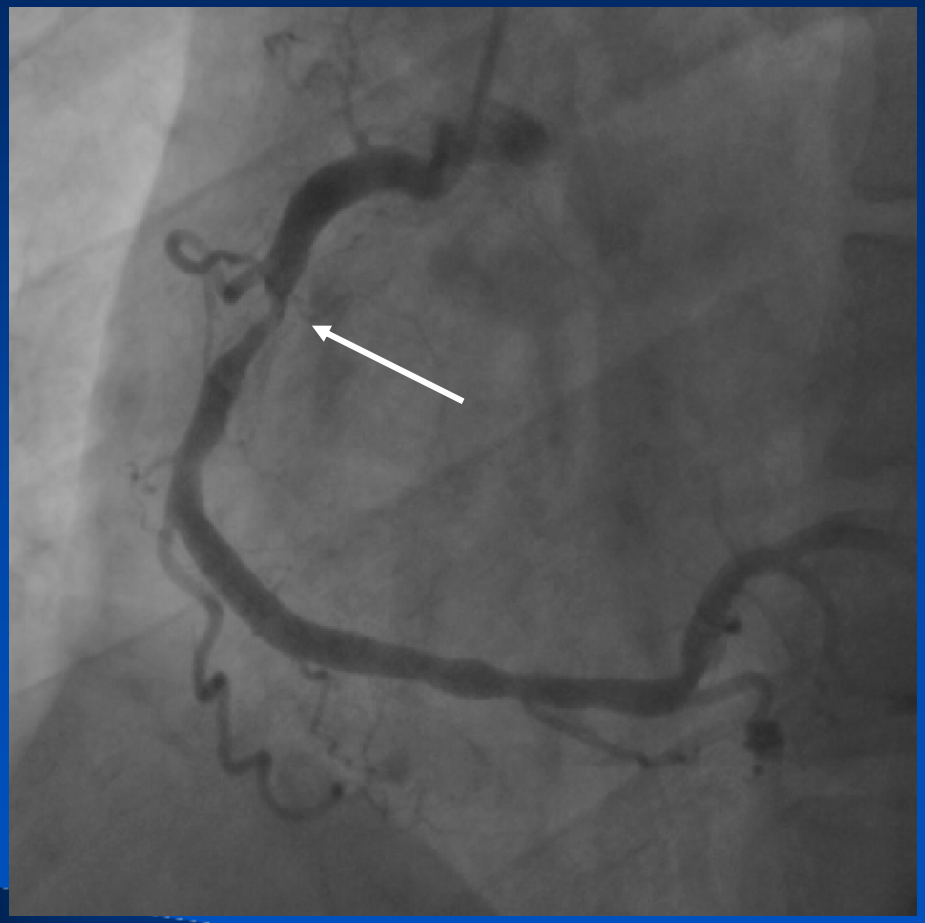
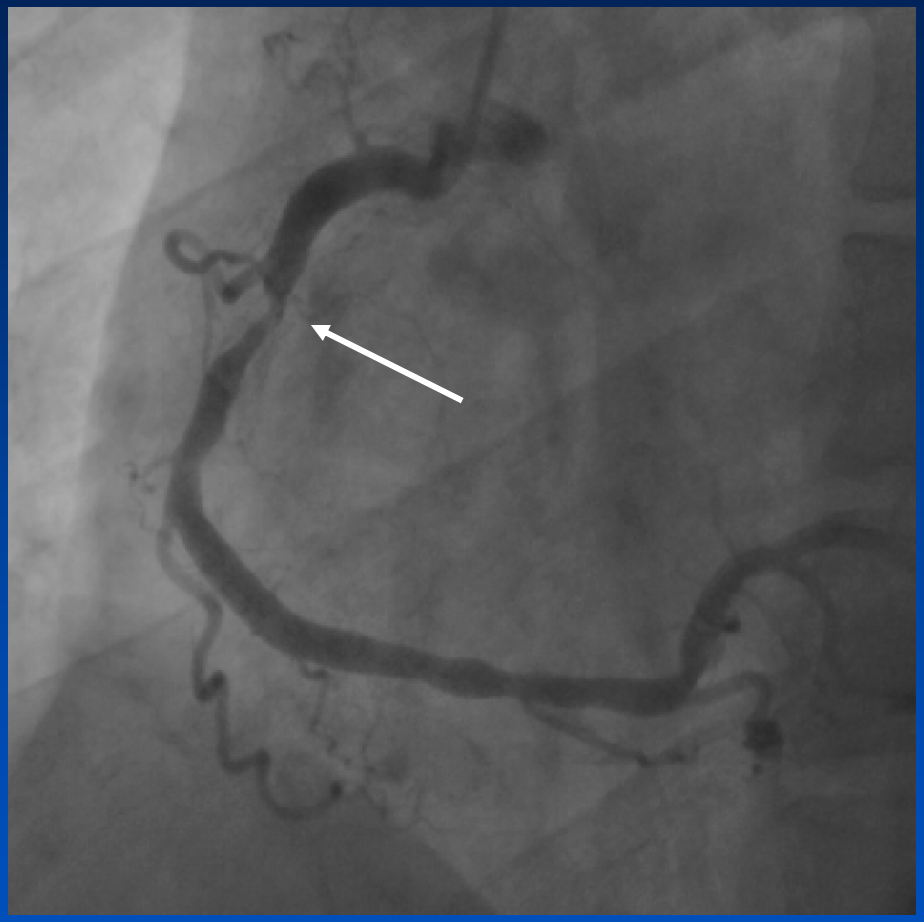
Significant Disease !

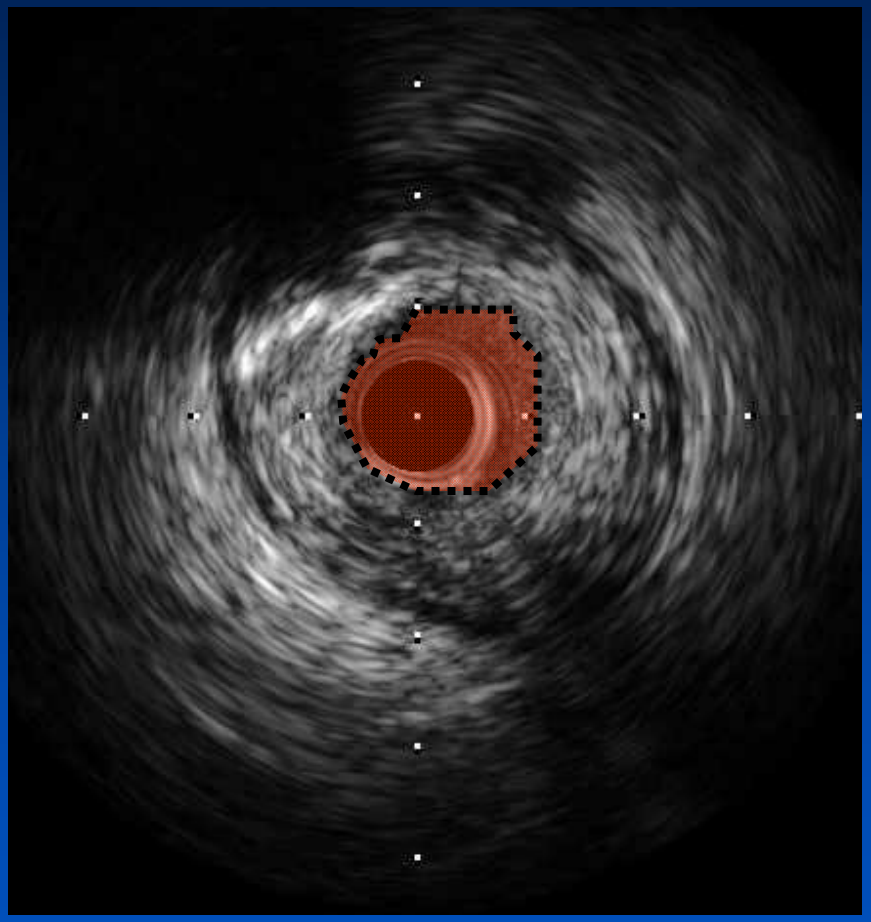
M/52, Recent developed Effort chest pain, Hyperlipidemia, Smoker



Visual Estimation 85%

IVUS

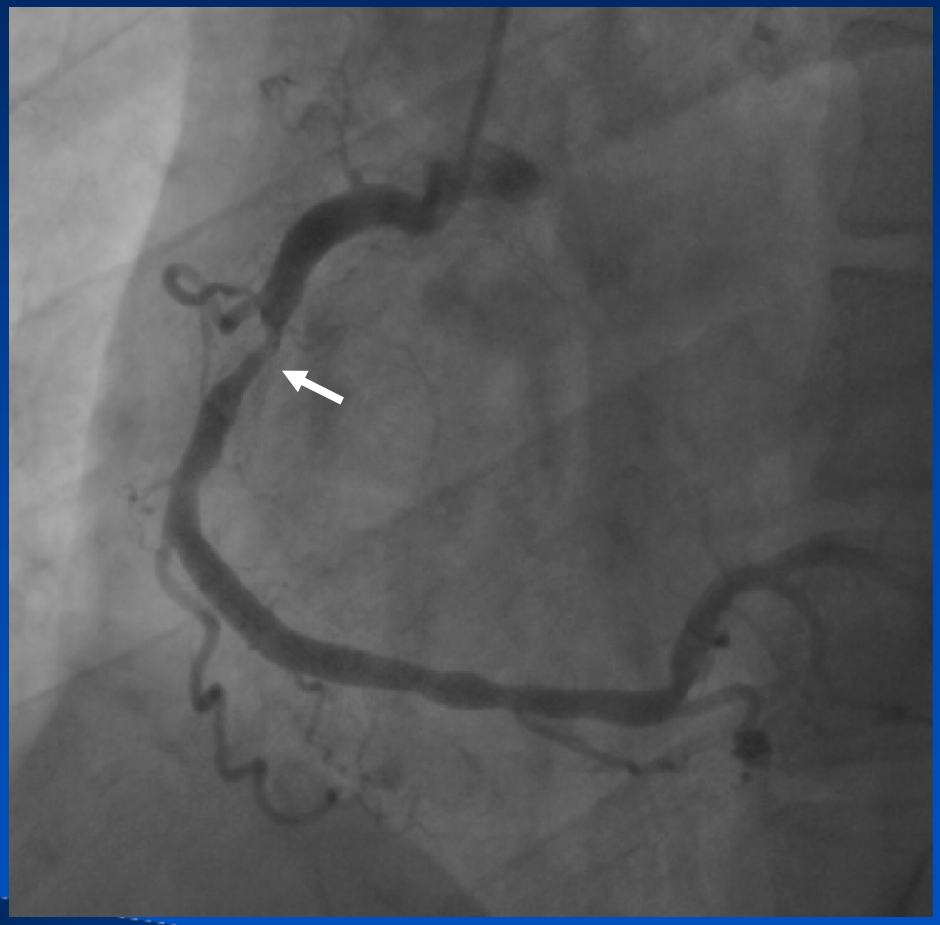




MLA 2.8 mm^2

Treat or Not treat

No Doubt about Stenting !



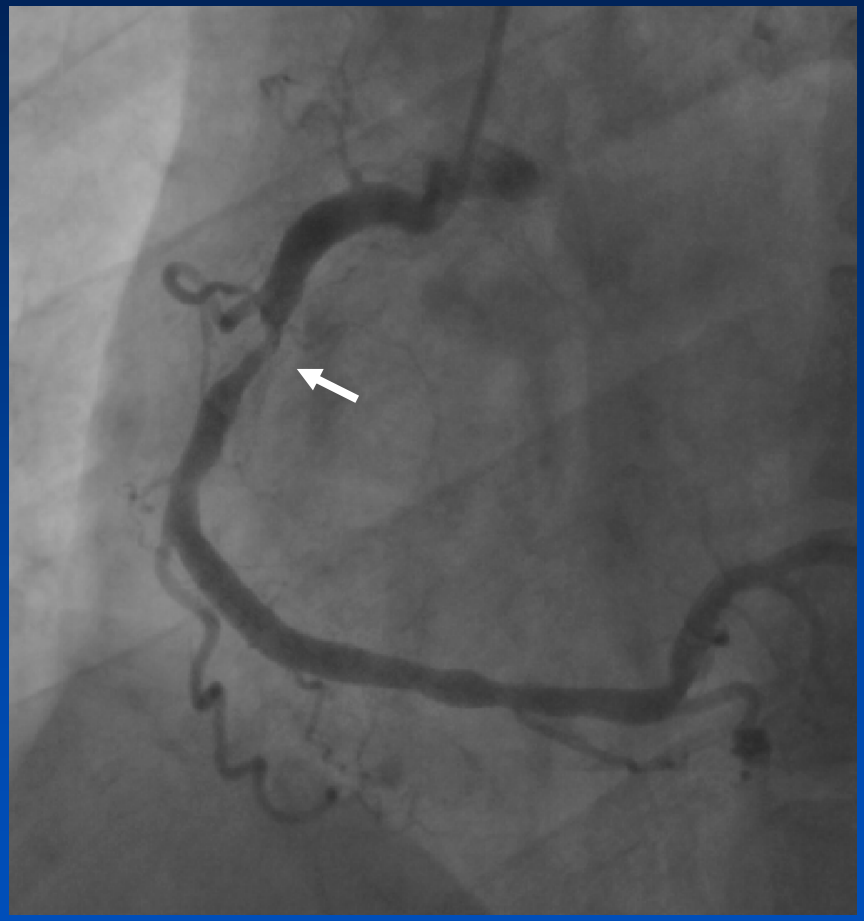
Visual estimation:
85%

IVUS MLA:
2.8 mm^2

FFR

Intravenous adenosine, 160 µg/kg/min

Mismatch



Visual estimation: 85%

IVUS MLA: 2.8 mm^2

FFR : 0.84

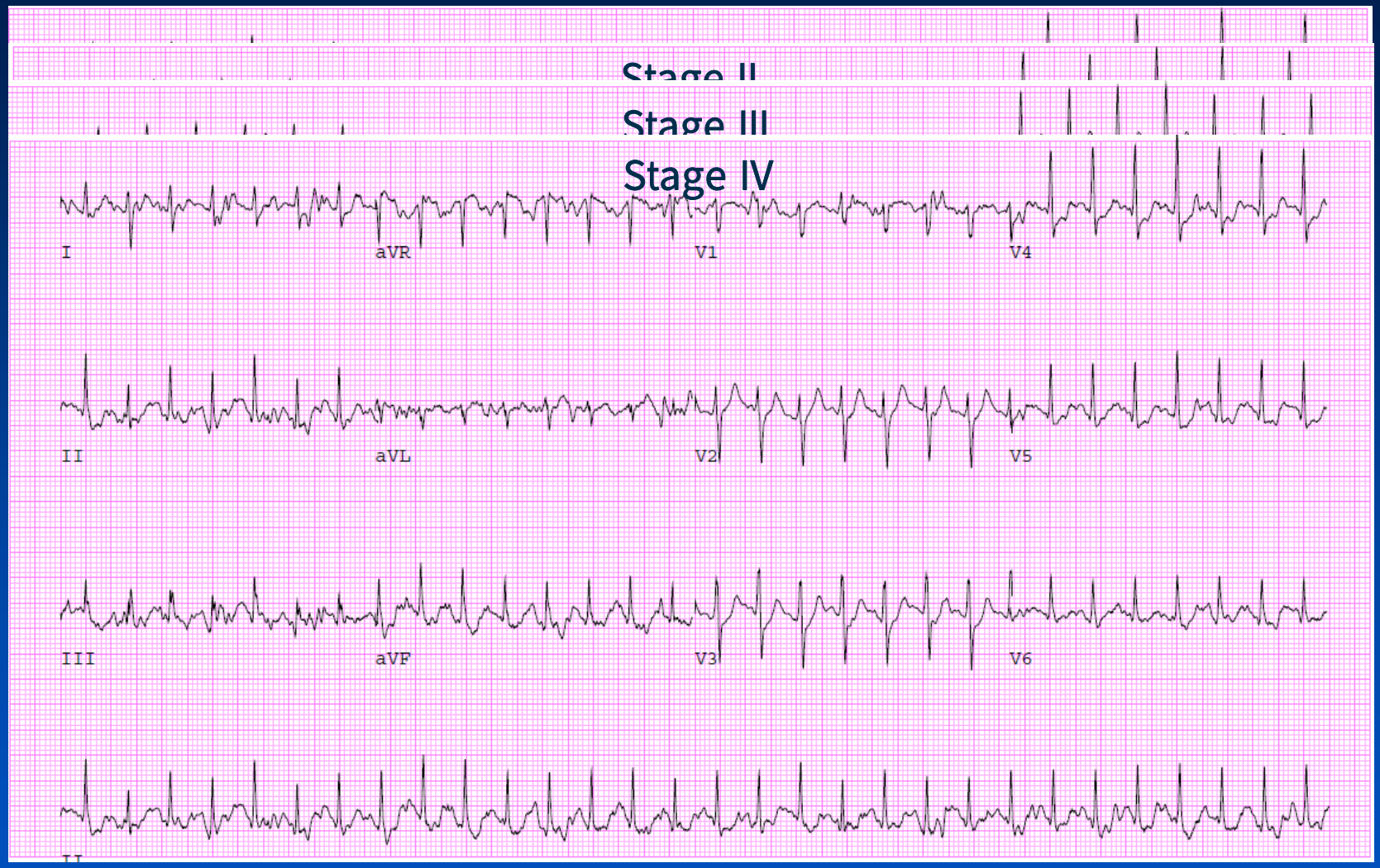
Negative FFR

My First Dilemma is...

Mismatch among FFR, angiographic severity, and IVUS MLA in the cath lab without evidence of stress test.

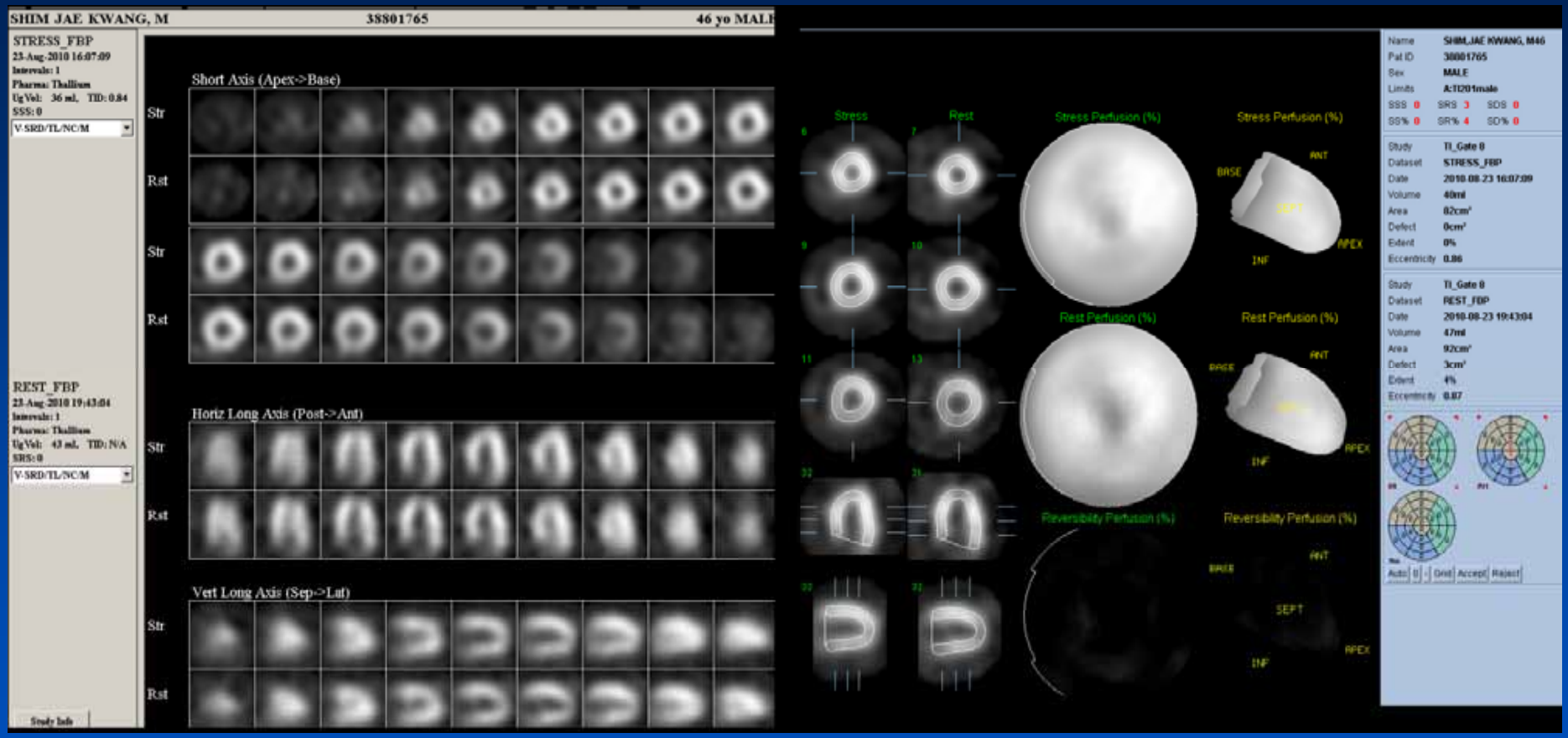
I want to get the evidence of objective ischemia...

Treadmill test



Stage 4 Negative

Thallium SPECT



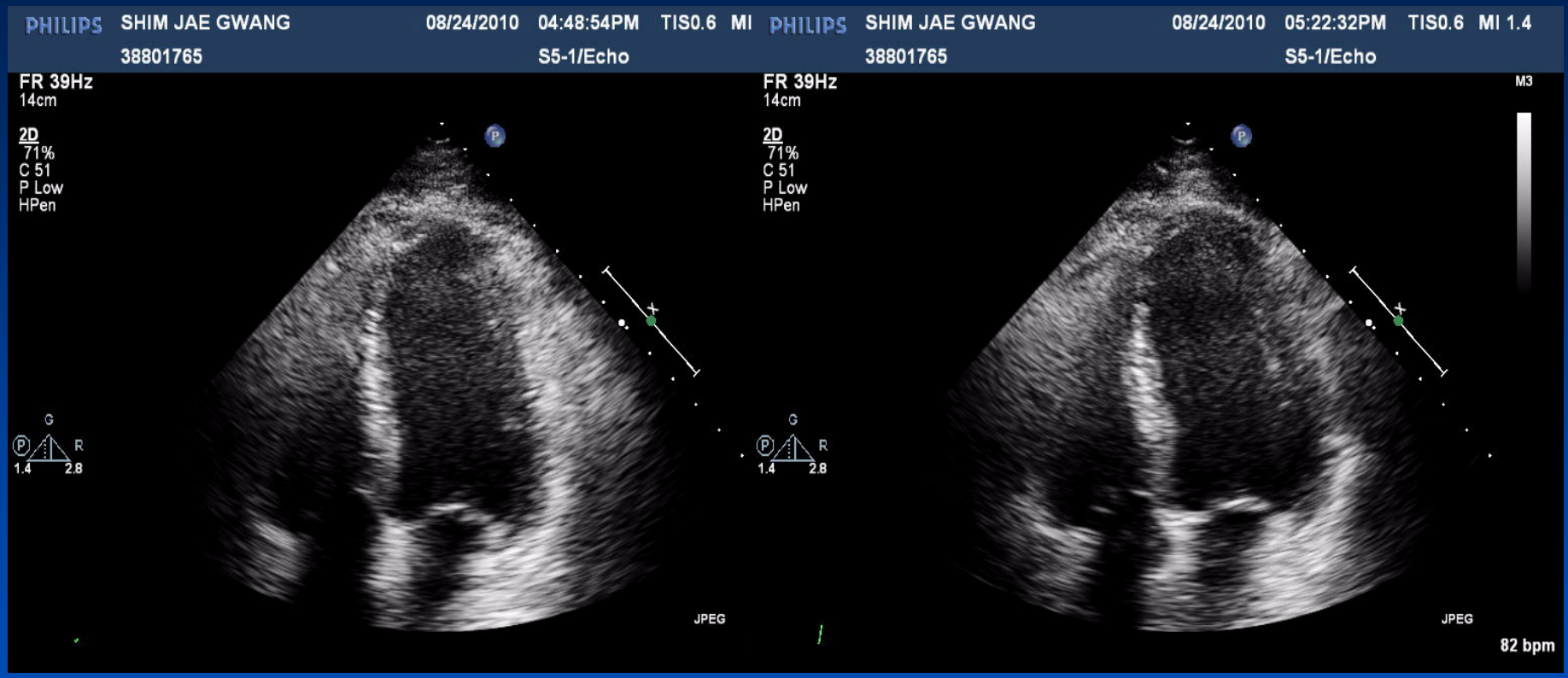
Normal

Visual estimation: 85%

IVUS MLA: 2.8 mm^2

I still can't believe negative stress test.

Dobutamine Stress EchoCG

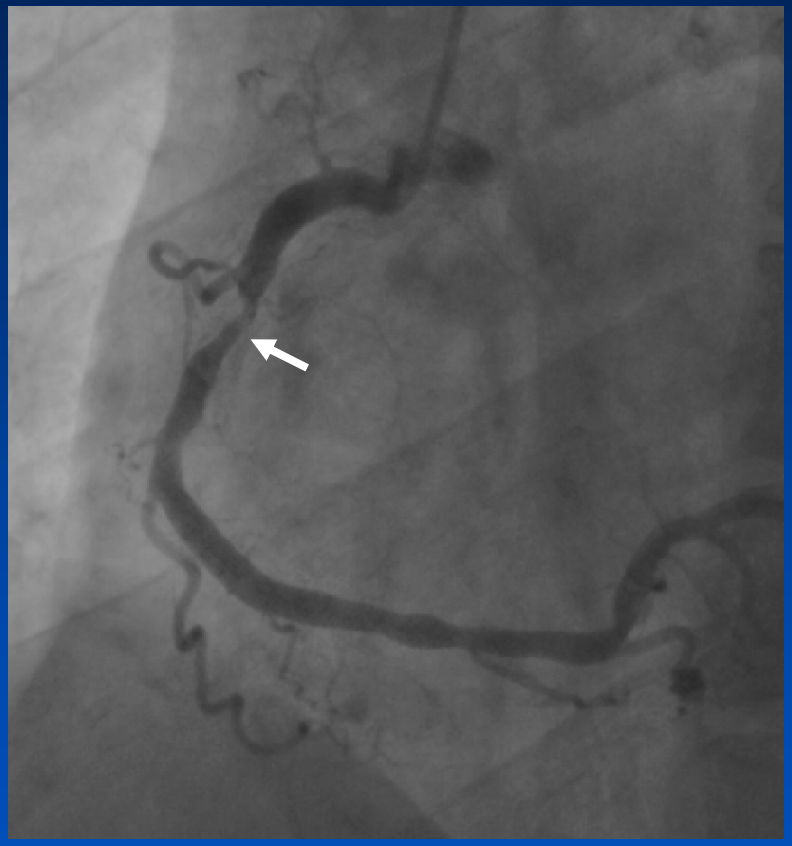


Baseline

Stimulation

Negative

Mismatch Disease



Angiographic DS(%) : 85%
IVUS MLA : 2.8 mm^2

FFR : 0.84
Treadmill test : Negative
Thallium spect : Normal
Stress Echo : Normal

What would you do ?

Evidence Based Medicine

Treatment relies primarily on noninvasive stress test (objective ischemia).

In Fact,

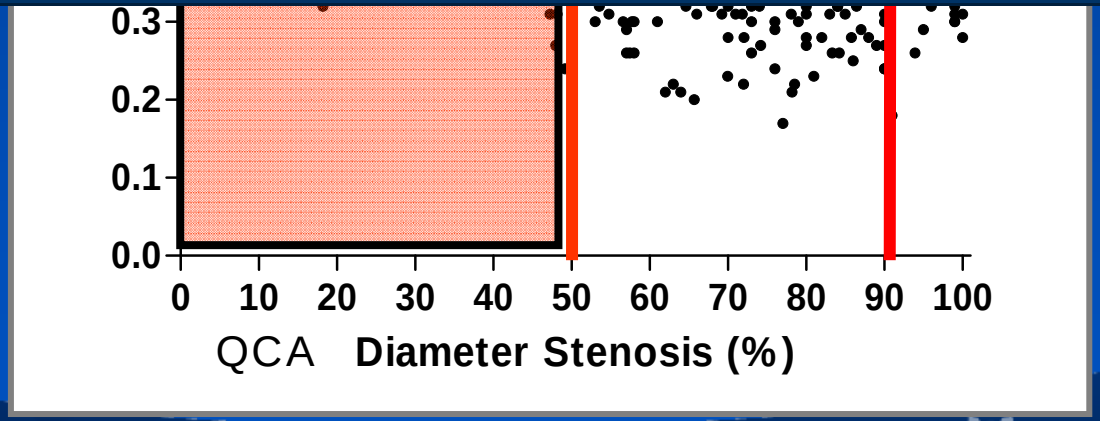
FFR is the only matched index with noninvasive stress tests (objective ischemia) in the cath lab.

I would Defer !

Mismatch Disease
in the Cath Lab

Comparison analysis; Angiography vs. FFR (n=3000)

Mismatch is not uncommon



QCA

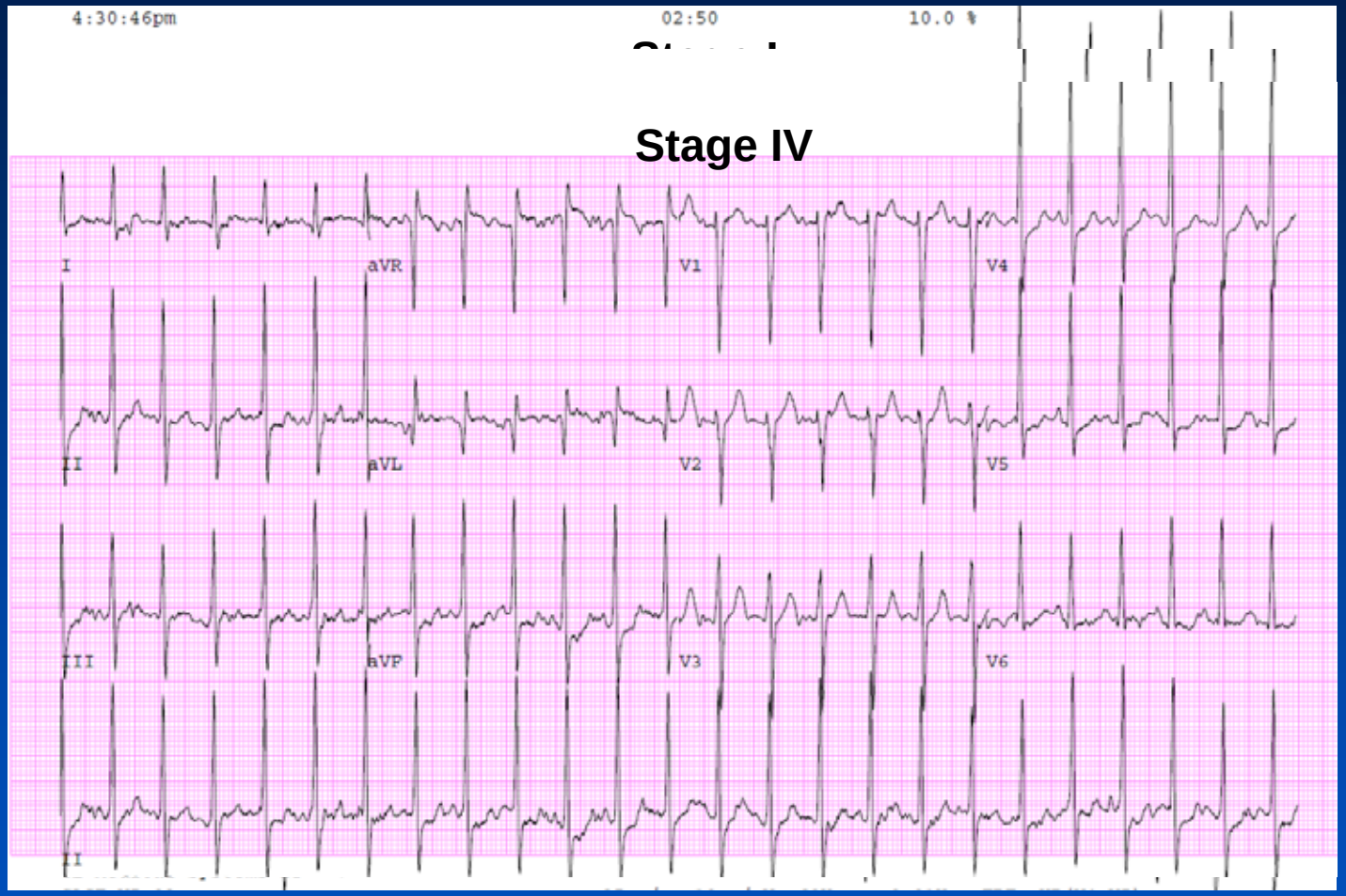
Courtesy of Bernard De Bruyne, MD, PhD,

M/57,

Effort chest pain for 2 months,
Hyperlipidemia, Smoker
TMT test : Negative

However, patient had typical effort angina and then we performed coronary angiogram.

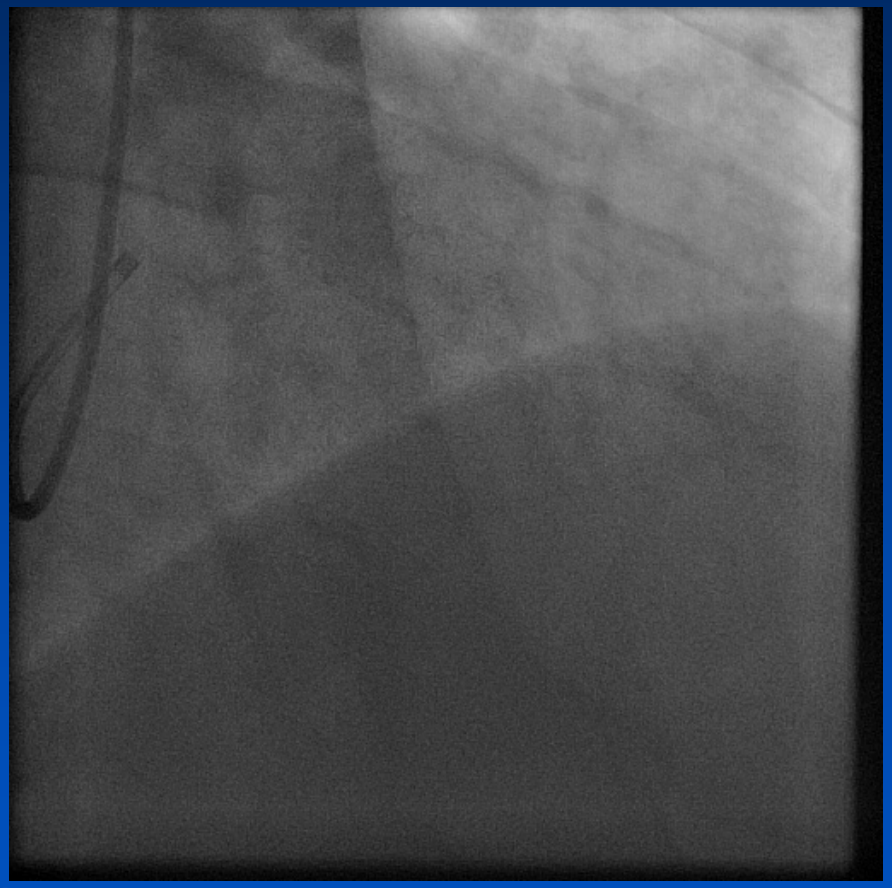
Treadmill Test



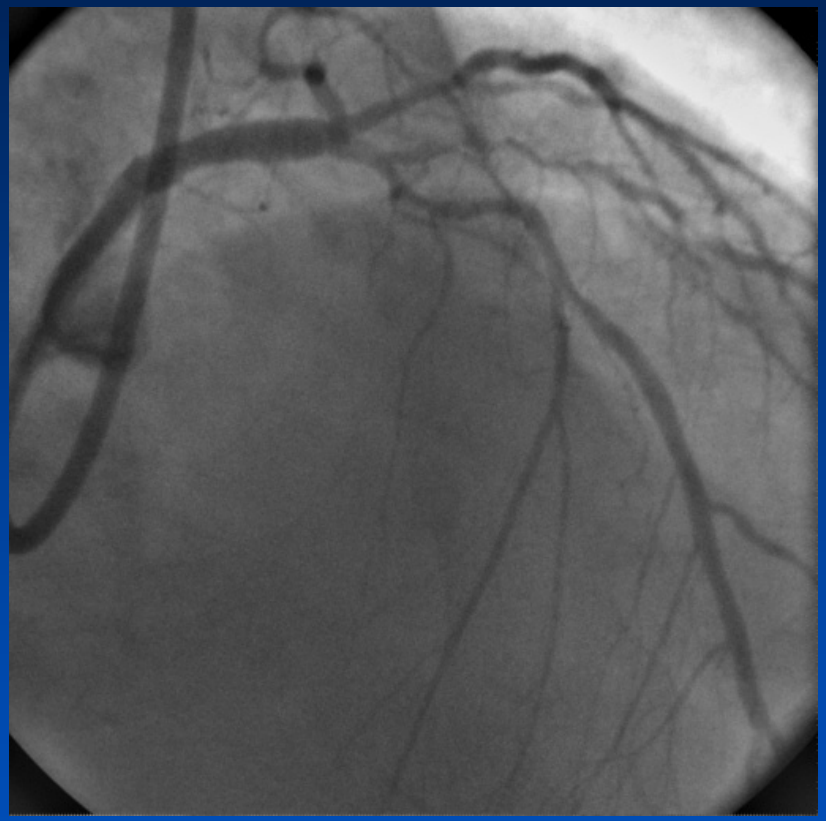
Normal

M/57, Effort chest pain, Hyperlipidemia, Smoker

Visual estimation ; 75%

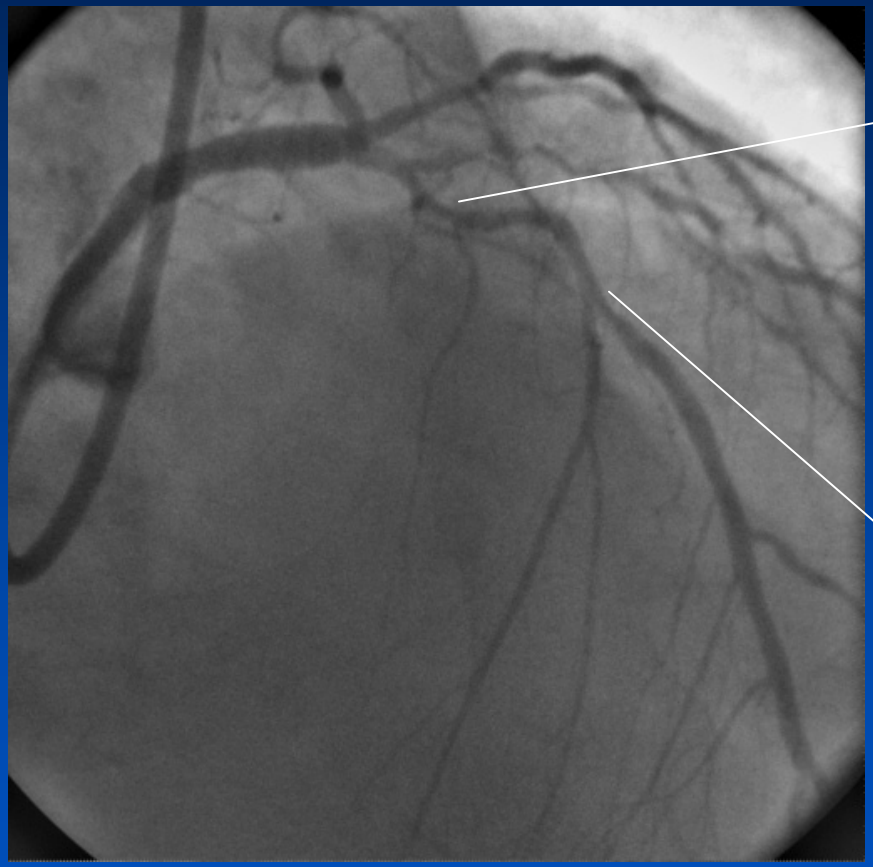


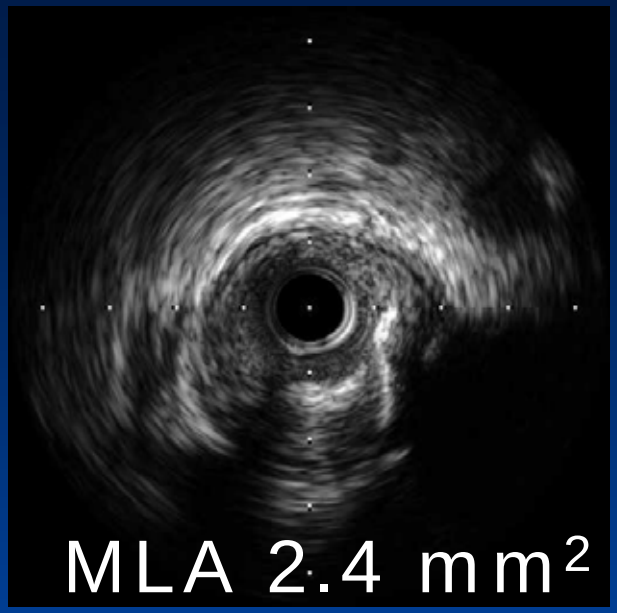
M/57, Effort chest pain, Hyperlipidemia, Smoker

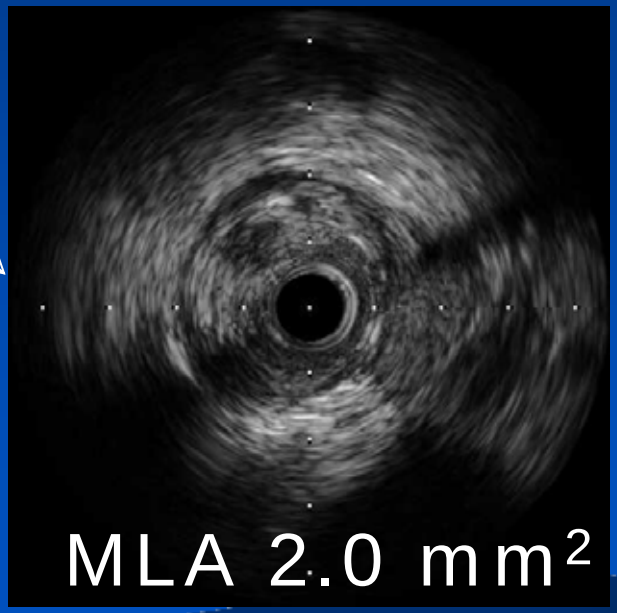


Right Coronary artery looks normal, minimal disease

IVUS

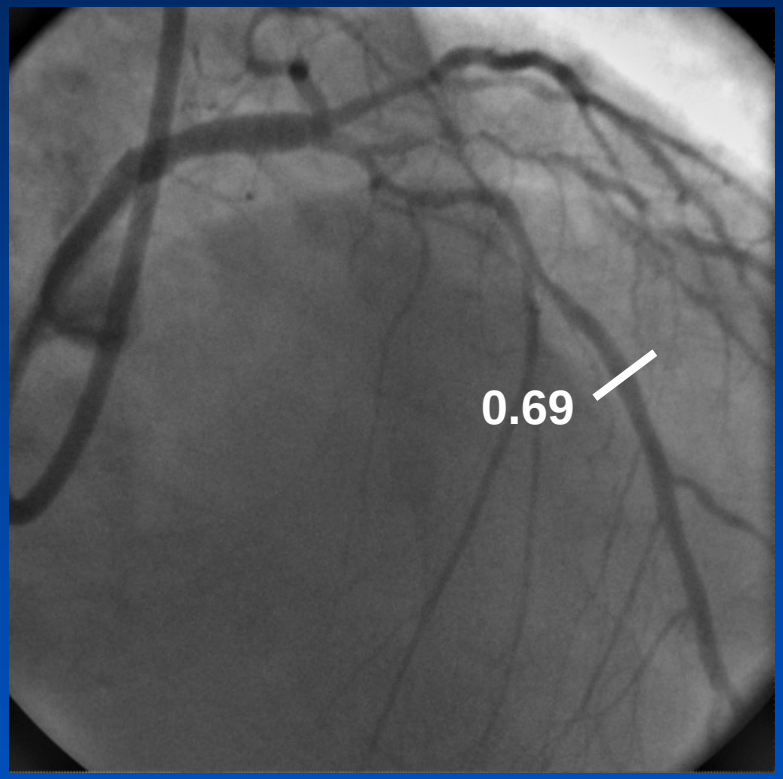


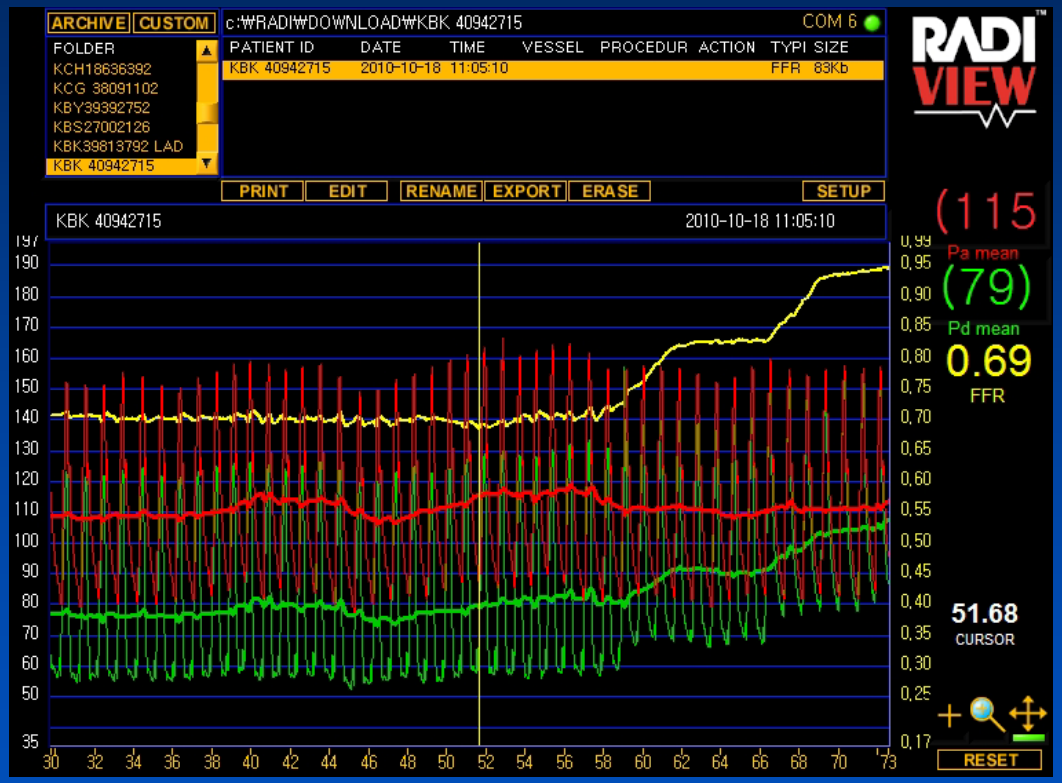




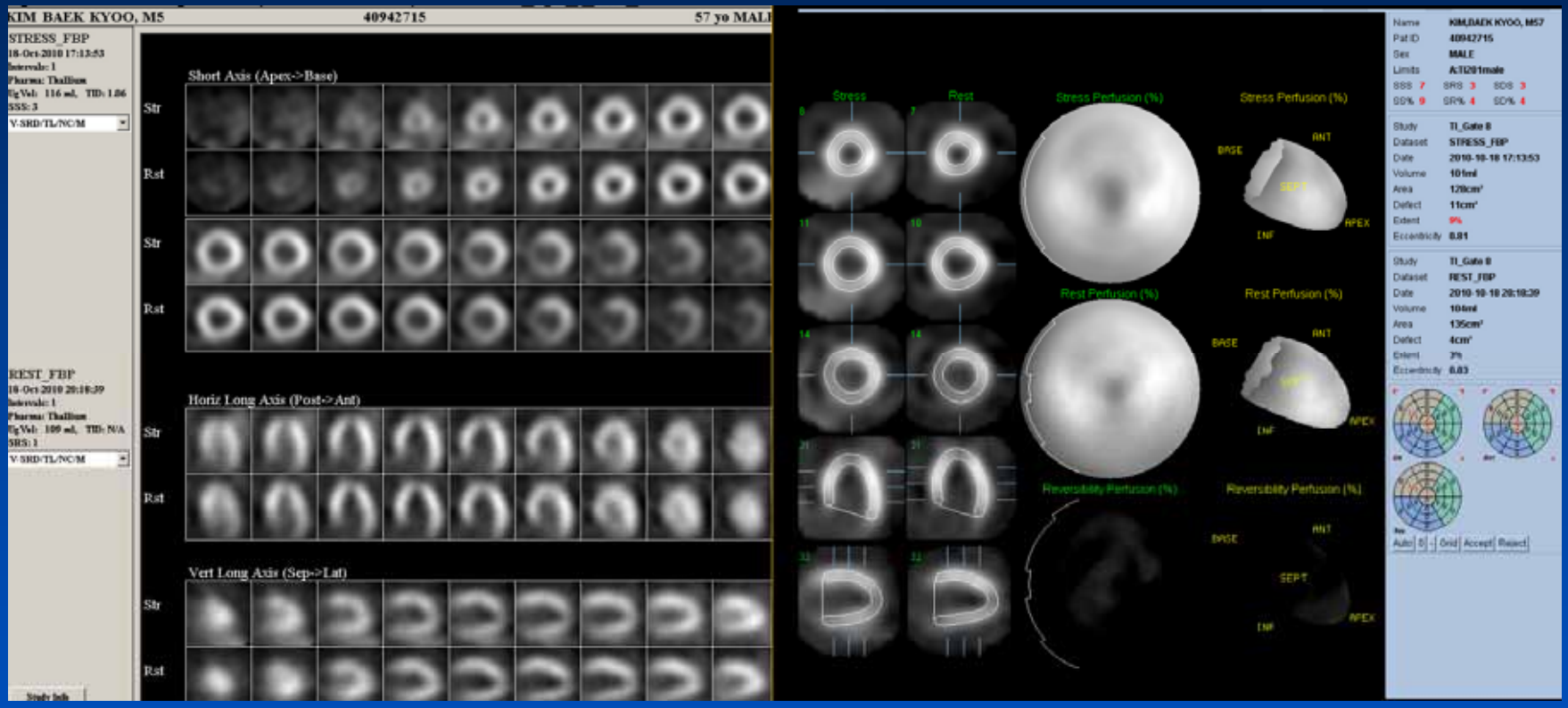
FFR

Intravenous adenosine, 140 μg/kg/min



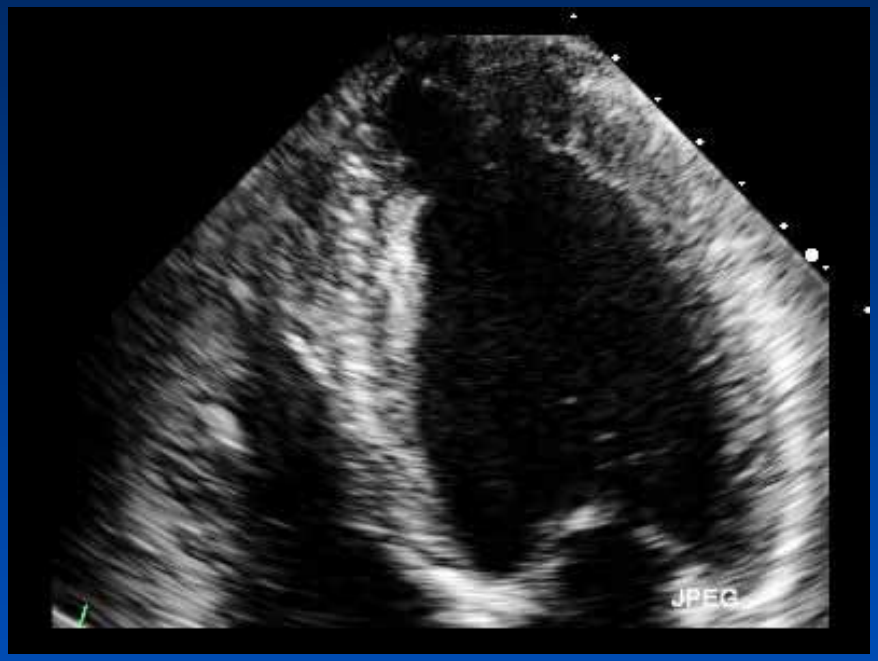


Thallium spect



Normal

Stress Echocardiography
(Adenosine up to 200ug/kg/min)

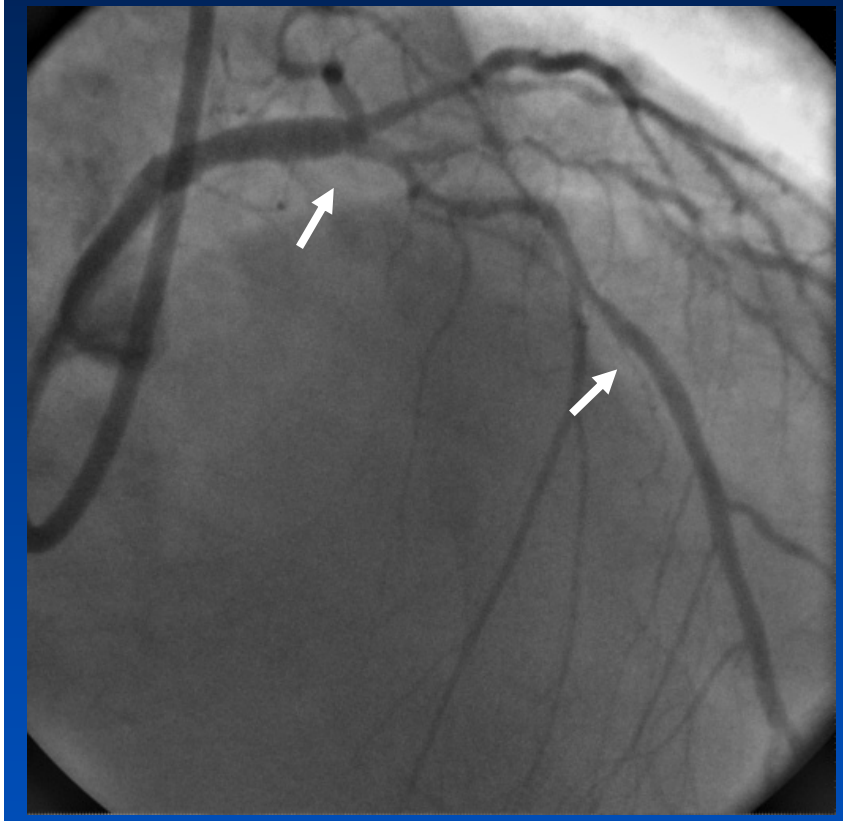


Baseline

Peak dose

Negative

Mismatch Disease



Angiographic DS(%) : 80%
IVUS MLA : 2.0-2.4 mm^2

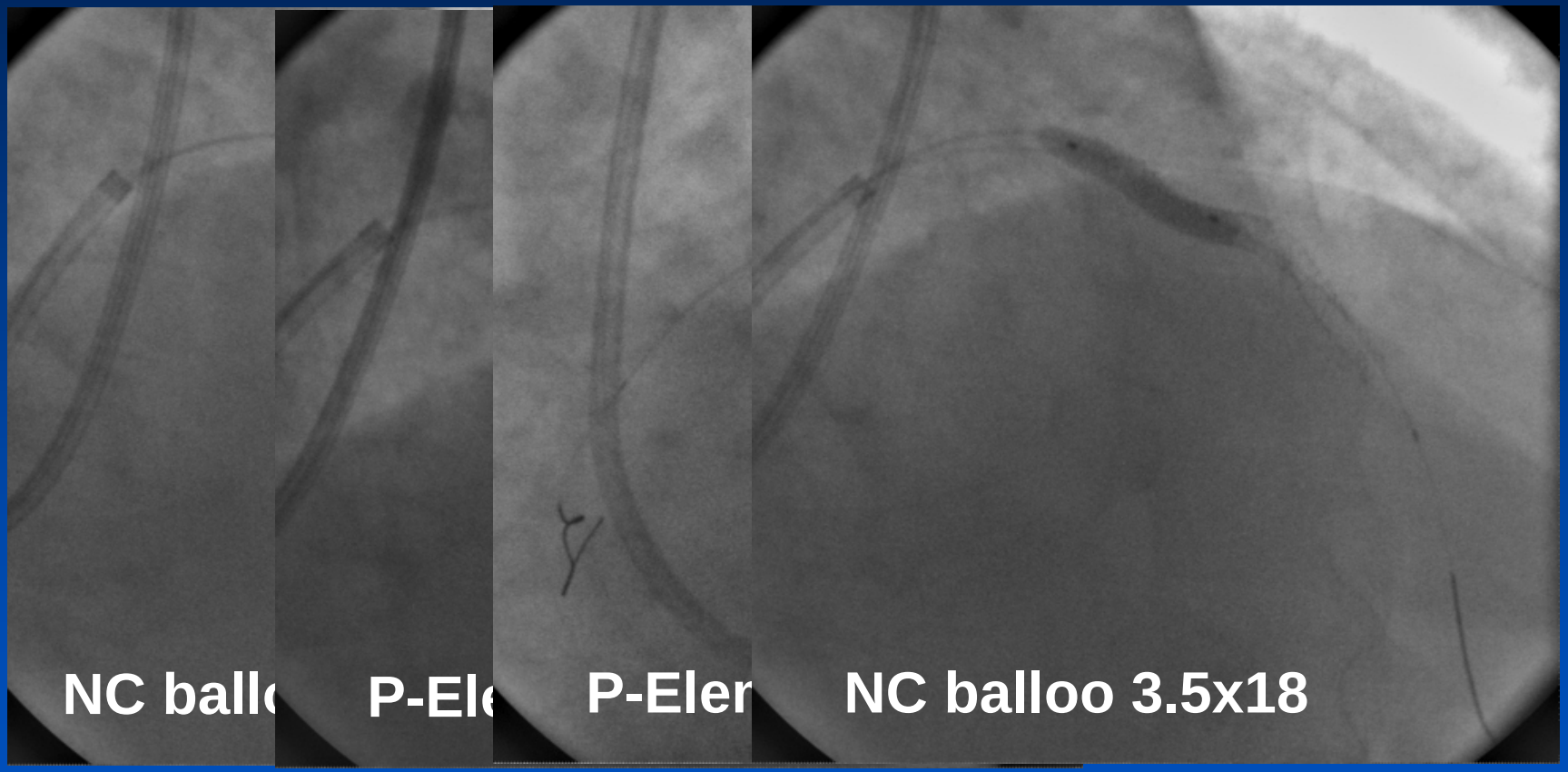
FFR : 0.69
Treadmill test : Negative
Thallium spect : Normal
Stress Echo : Normal

What would you do ?

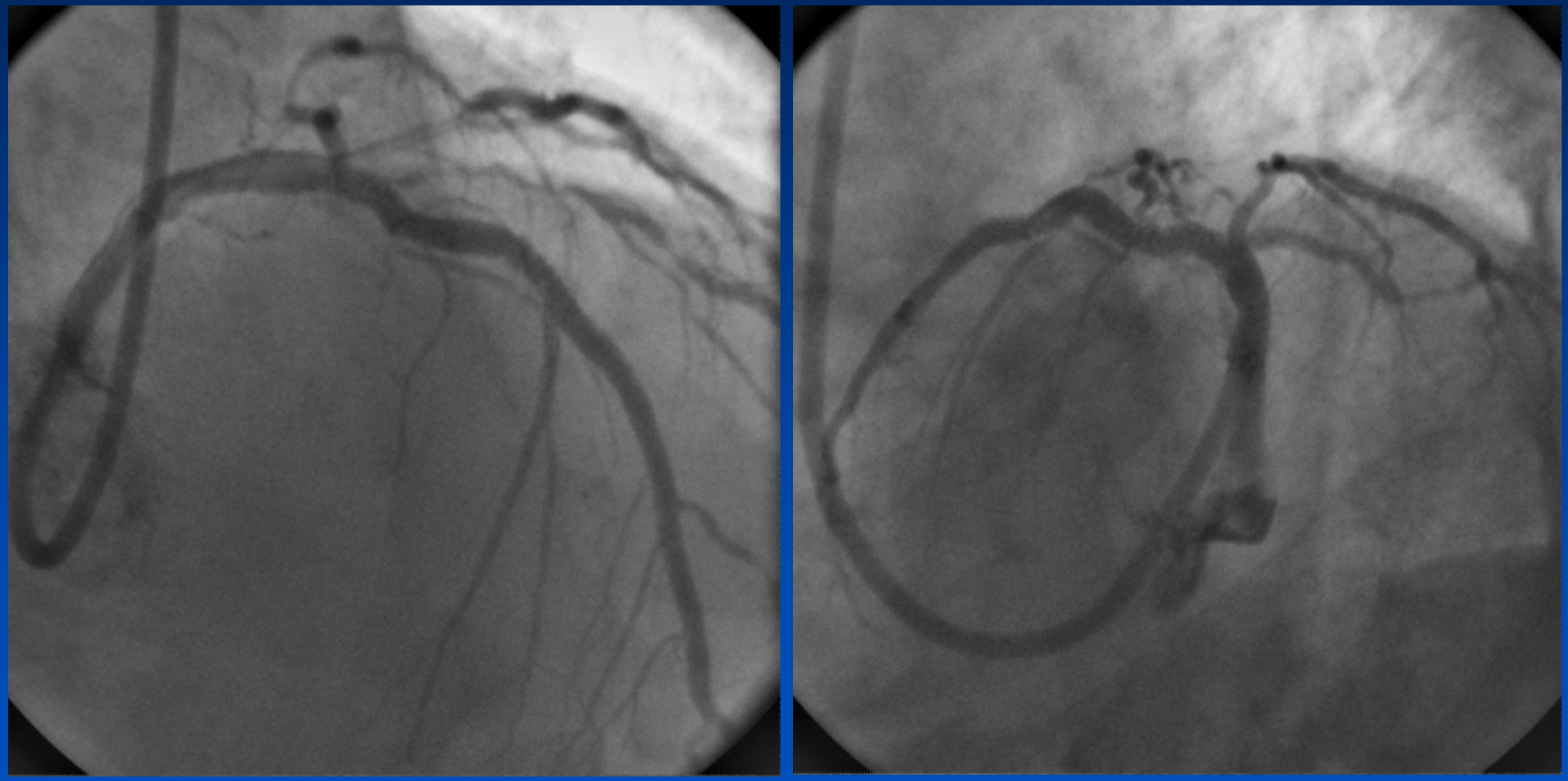
The ESC guidelines, classify FFR-guided treatment as "Class I, with level of evidence A."

I would Treat !

2 DESs (28 x 20 mm)



Final Result



Mismatch Disease

Mismatched problems mainly are between angiographic severity/ IVUS MLA and non-invasive stress test. Not related with FFR.

Mismatch Disease

Do you want to treat the Lesion ?
based on angiography and/or IVUS MLA

Do you want to treat the Patients ?
based on non-invasive stress test
and/or FFR

Thank You !!
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