

# Post PTCA with dyspnoea

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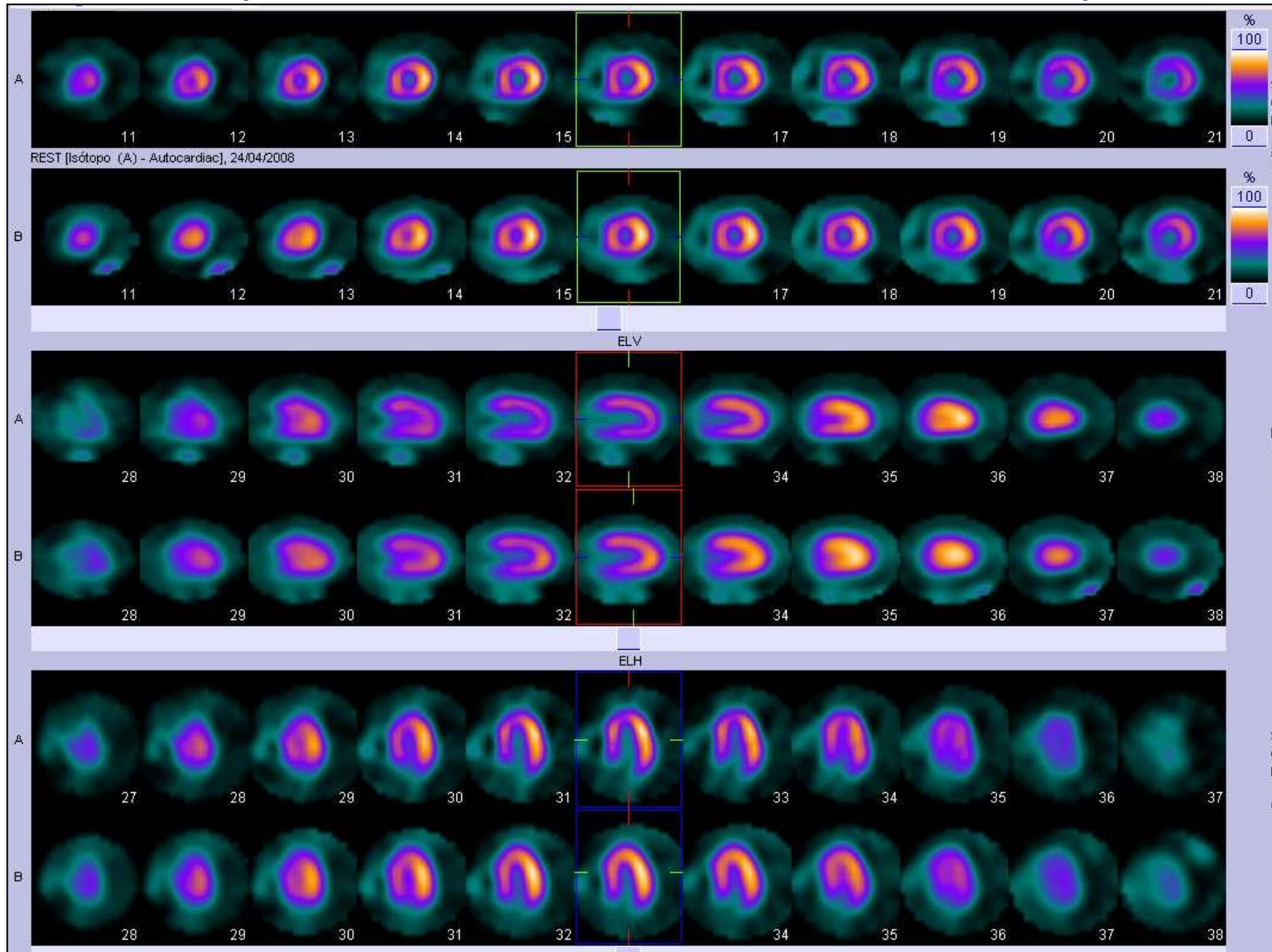
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# Clinical history

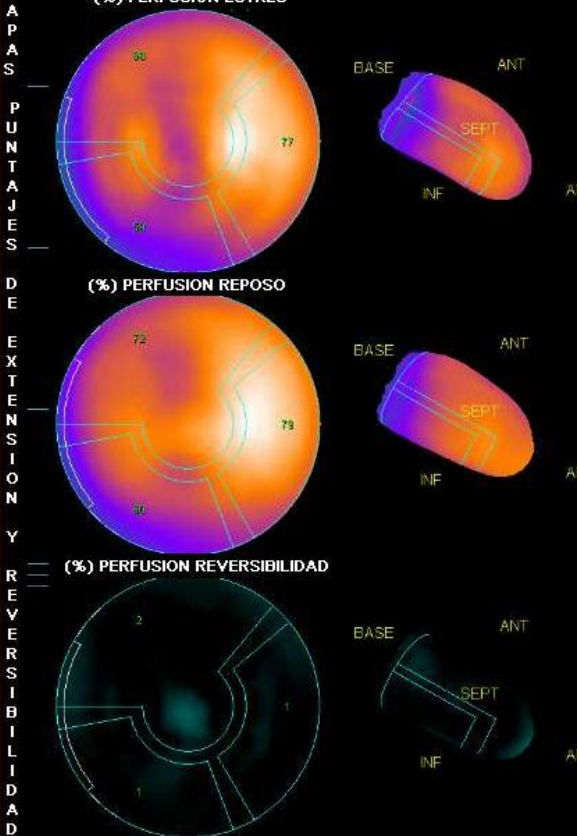
- 62 y.o. man.
- Previous PTCA with stents (ADA, Cx) 8 months before.
- Exerptional dyspnea, no chest pain.
- No EKG changes.
- Unable to exercise (knee prosthesis).
- Myocardial perfusion study (MPI) with dipyridamole.

# Myocardial perfusion study



# Quantitation of perfusion and function

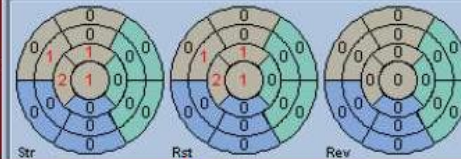
APAS PUNTAJES DE EXTENSION Y REVERSIBILIDAD



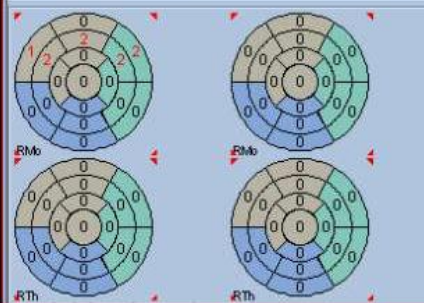
SSS	2	SRS	2	SDS	0
SS%	3	SR%	3	SD%	0
Study	Myocardial Perfusion				
Dataset	STRESS [Isótopo (A) - Autocardiac]				
Date	2008-04-23 18:00:01				
Limits	MaleStressMB				
Volume	46ml				
Area	98cm <sup>2</sup>				
Defect	4cm <sup>2</sup>				
Extent	4%				
TPD	5%				
Shape	0.48 [SI], 0.87 [Ecc]				
Study	Myocardial Perfusion				
Dataset	REST [Isótopo (A) - Autocardiac]				
Date	2008-04-24 15:06:12				
Limits	MaleRestMB				
Volume	35ml				
Area	87cm <sup>2</sup>				
Defect	8cm <sup>2</sup>				
Extent	9%				
TPD	7%				
Shape	0.47 [SI], 0.87 [Ecc]				

Study	Myocardial Perfusion		
Dataset	STRESS-Sincronizada [Isótopo (A) - Autocar		
Date	2008-04-23 17:57:35		
Volume	21ml [4]		
EDV	53ml [1]		
ESV	21ml [4]		
EF	60% ← FEVI ESTRES		
Area	76cm <sup>2</sup> [4]		
Shape	0.54 [SI ED], 0.43 [SI ES], 0.82 [Ecc 4]		
Study	Myocardial Perfusion		
Dataset	REST-Sincronizada [Isótopo (A) - Autocar		
Date	2008-04-24 15:03:38		
Volume	14ml [4]		
EDV	47ml [8]		
ESV	14ml [4]		
EF	71% ← FEVI RESPOSO		
Area	68cm <sup>2</sup> [4]		
Shape	0.54 [SI ED], 0.40 [SI ES], 0.82 [Ecc 4]		

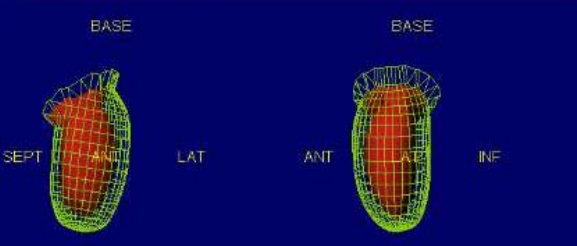
PARAMETROS CUANTITATIVOS FUNCIONALES



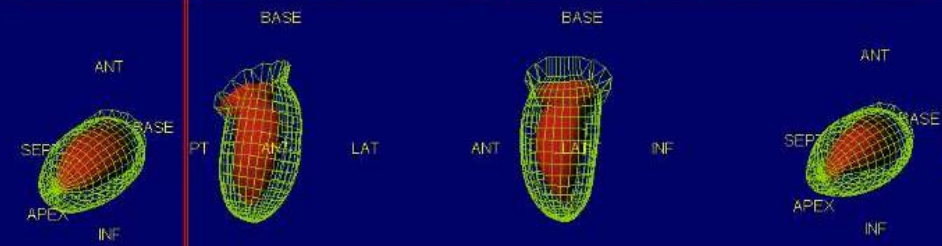
Str      Rst      Rev



RTh      RTh



MOTILIDAD PARIETAL ESTRES FIN DE SISTOLE



MOTILIDAD PARIETAL REPOSO FIN DE SISTOLE

## With these results, you would:

- a) Keep medical treatment, no further measures.
- b) Send the patient to catheterization.
- c) Indicate a CT-angiography.
- d) Order a stress echocardiogram.

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- Although no clear segmental ischemia is observed, there is transient ischemic dilation of the LV which can indicate balanced ischemia.
- The drop in post-stress LVEF could be due to stunning.
- In a patient with known CAD and PTCA, these findings give reason for catheterization with no further delay.

# Restenosis usually occurs:

- a) Within 1 to 3 months after PTCA.
- b) Within 3 to 9 months after PTCA.
- c) Within 9 to 12 months after PTCA.
- d) After 12 following PTCA.

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  - b) *Within 3 to 9 months after PTCA.***
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  - d) After 12 following PTCA.
- Although increasingly complex lesions and higher-risk patients are being successfully treated percutaneously, restenosis and disease progression continue to cause significant morbidity.



# Coronary angiography

The patient underwent coronary angiography, showing:

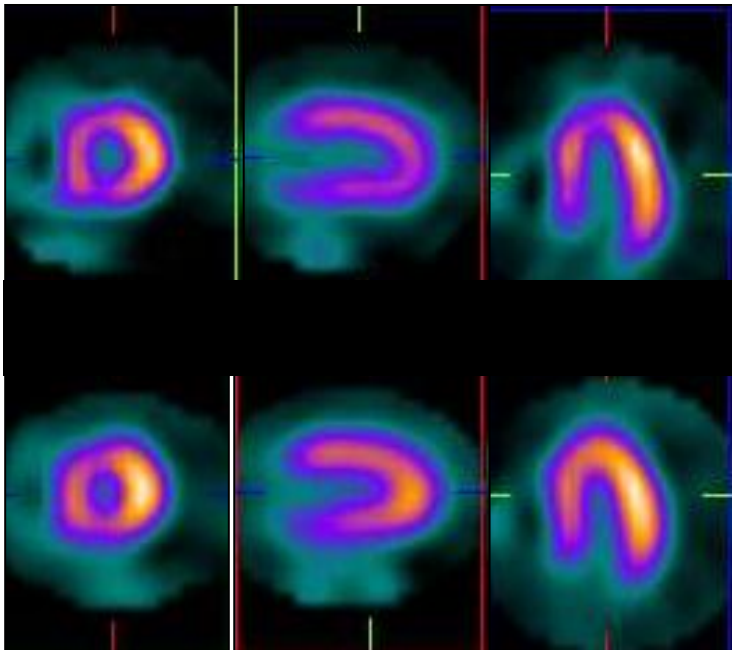
- Restenosis, LAD.
- Restenosis, LCx.
- 90% lesion, proximal RCA.

CABG recommended, on waiting list.

# Teaching points

- Restenosis occurs in approximately one-third of patients undergoing PTCA, one-half of whom presents with symptoms.
- Functional imaging performed before 6 months of the procedure can yield false–positive results due to lack of recovery of coronary flow reserve .
- Non-invasive imaging is indicated after PTCA if atypical chest pain or other non-specific symptoms appear, or an exercise test is non-diagnostic / equivocal.

# Teaching points



- Transient ischemic dilation (TID) is frequently related to balanced ischemia, which in turn is associated with multivessel disease.
- A drop in post-stress LVEF can reflect myocardial stunning and is related with increased risk of cardiac events.

# Bibliography

- Abidov A, Bax JJ, Hayes SW, et al. Transient ischemic dilation ratio of the left ventricle is a significant predictor of future cardiac events in patients with otherwise normal myocardial perfusion SPECT. *J Am Coll Cardiol* 2003; 42:1818-25.
- Giedd KN, Bergmann SR. Myocardial perfusion imaging following percutaneous coronary intervention: the importance of restenosis, disease progression, and directed reintervention. *J Am Coll Cardiol* 2004; 43:328-36.
- Al-Housni MB, Hutchings F, Dalby M. Does myocardial perfusion scintigraphy predict improvement in symptoms and exercise capacity following successful elective percutaneous coronary intervention? *J Nucl Cardiol* 2009; 16:869-77.
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