

Heart failure post-MI

Myocardial viability with nitrates

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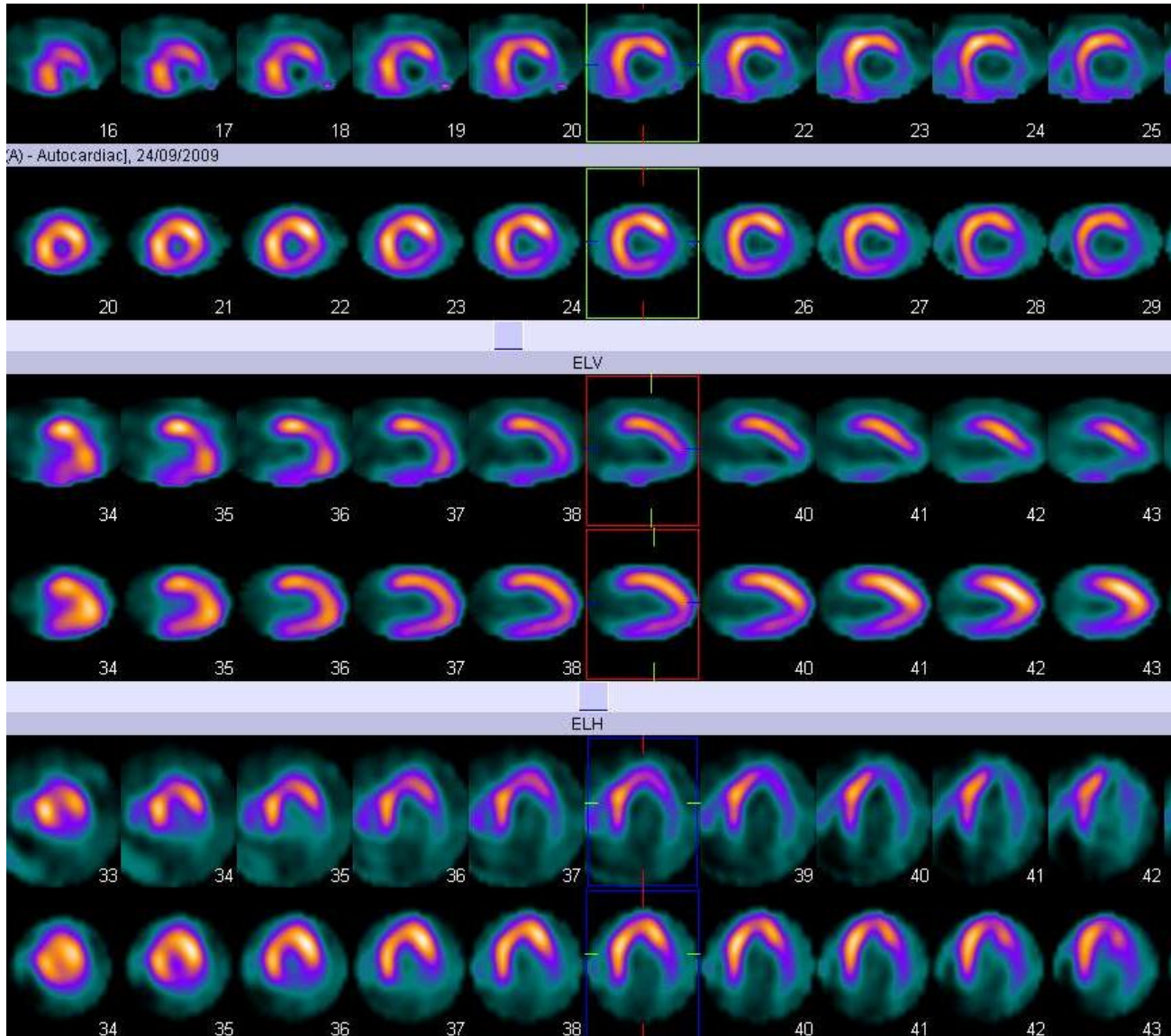
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Clinical history

- 73-year old man.
- Previous myocardial infarction, heart failure.
- Submitted for myocardial viability assessment.
- Myocardial perfusion study with ^{99m}Tc -sestamibi at rest and after nitrates.

Myocardial perfusion study



The perfusion result is consistent with:

- a) Ischemia.
- b) Transmural infarction.
- c) Hibernation.
- d) Attenuation.

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- The rest images show extensive perfusion defects at the postero-lateral and inferior walls, with significant improvement after nitrates.
- There is also a small anteroseptal area with the same findings.
- The result is consistent with the presence of viable, hibernated myocardium in most parts of the affected areas.

Myocardial viability can be assessed using:

- a) Dobutamine echocardiography.
- b) Cardiac SPECT or PET.
- c) Magnetic resonance imaging.
- d) All of the above.

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- Myocardial viability can be assessed with SPECT perfusion studies (alone or with nitrate stimulation), PET, dobutamine echocardiography, or magnetic resonance imaging.

Teaching points

- Myocardial viability studies are important in patients with heart failure and coronary heart disease in order to identify patients in whom either CABG or PTCA could result in functional recovery.
- Hibernated (viable) myocardium is thought to be the result of chronic ischemia and is generally associated with improvement after revascularization.
- Myocardial viability can be assessed with SPECT perfusion studies (alone or with nitrate stimulation), PET, dobutamine echocardiography, or magnetic resonance imaging, with comparable diagnostic yield.

Bibliography

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