

1980: El primer

Am J Cardiol 1980 Dec 18;46(7):1278-83

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Nuclear magnetic resonance imaging: potential cardiac applications.

Goldman MR, Pohost GM, Ingwall JS, Fossel ET

During the past several years, the production of high resolution images of organs in intact animals and human beings using nuclear magnetic resonance (nmr) has generated much interest and raised the possibility that the technique could be usefully applied to clinical problems. Because the images are derived from biochemical as well as structural information, valuable data relating to the metabolic status of the tissues and organs may be obtained. Furthermore, nuclear magnetic resonance imaging involves no potentially hazardous ionizing radiation. The technology of the technique is complex and much work remains to be done defining the biochemical and physiologic basis of such images, but the potential rewards of defining the metabolic state of organs such as heart and brain in the intact animal and human justify continued research.

Aplicaciones de la resonancia magnética en cardiología: experiencia inicial en 100 casos

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REVISTA ESPAÑOLA DE CARDIOLOGÍA. VOL. 47, SUPLEMENTO 4, 1994

TABLA 3 **Indicaciones para un estudio de RM cardíaca**

Coartación aórtica
Cardiopatías congénitas complejas
Masas intracardíacas o mediastínicas
Miocardiopatía hipertrófica
Aneurisma aórtico o disección
Pericarditis constrictiva

Localization and determination of infarct size by Gd-Mesoporphyrin enhanced MRI in dogs

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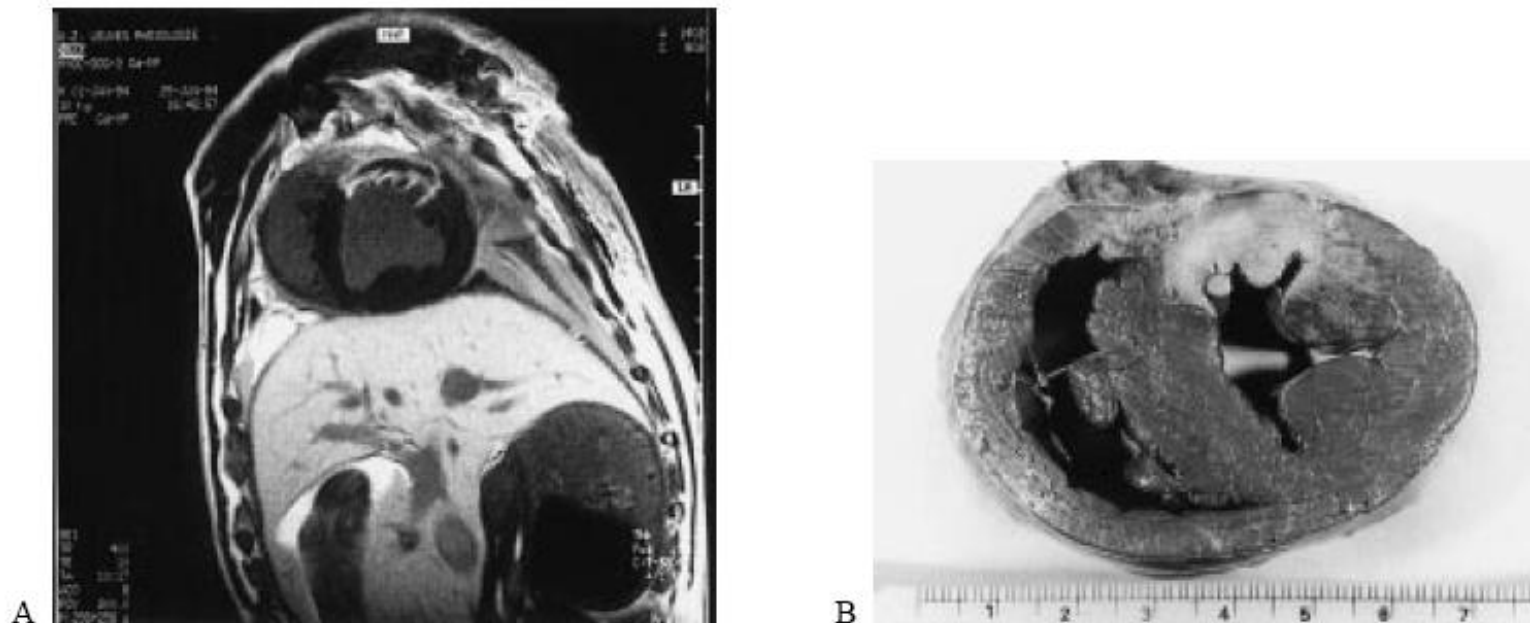
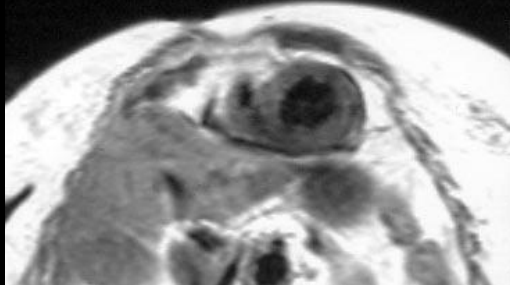
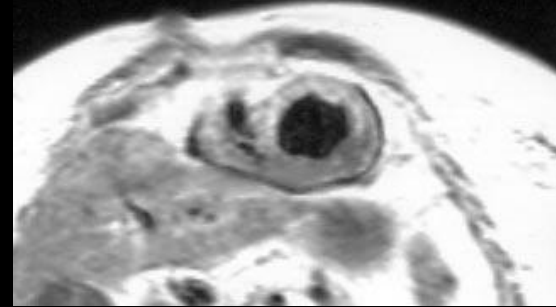


Figure 4. Representative example of a postmortem T1-weighted spin echo image (Figure 4a) with its corresponding TTC stained slice (B) in a non-reperfused infarction. Remark the central non-enhanced zone, but the very bright peripheral rim, matching the TTC determined infarct size.

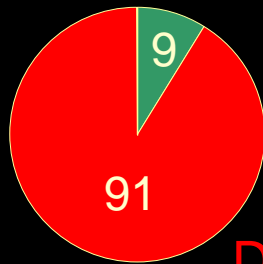
Basal



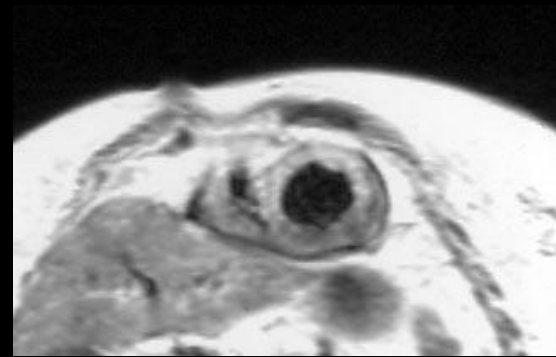
Gad



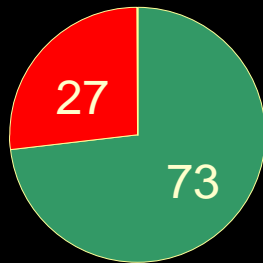
Gad +



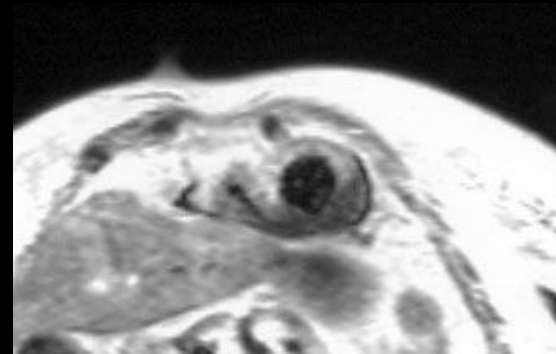
Disfunción contráctil



Gad -



Motilidad normal

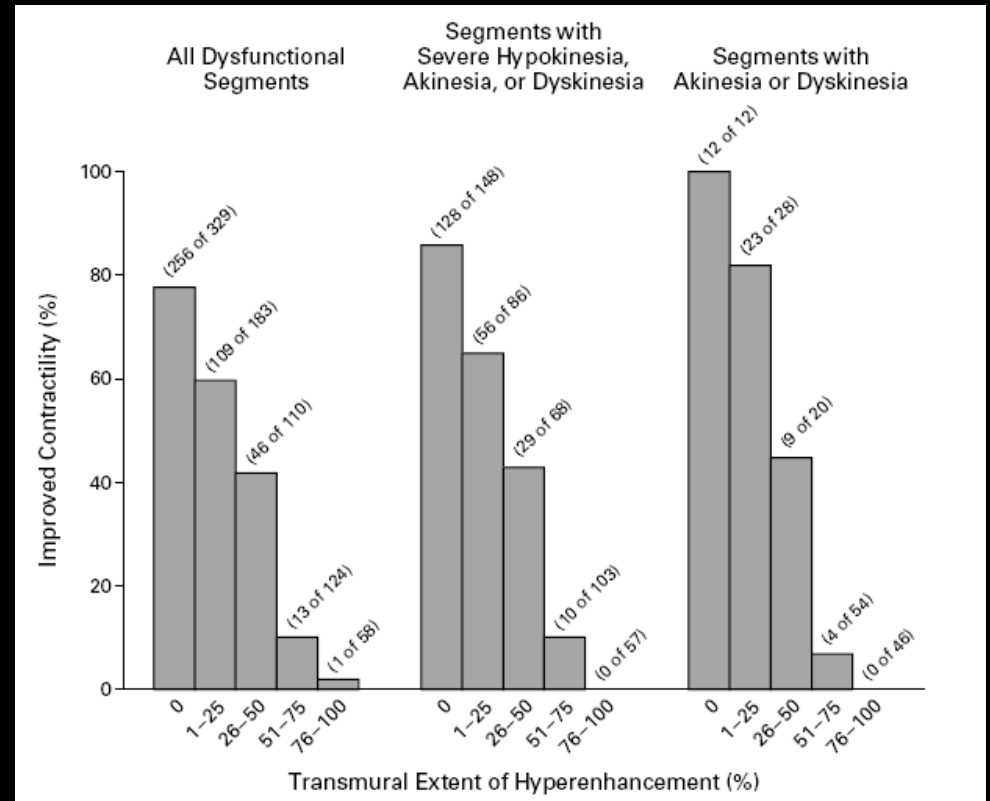
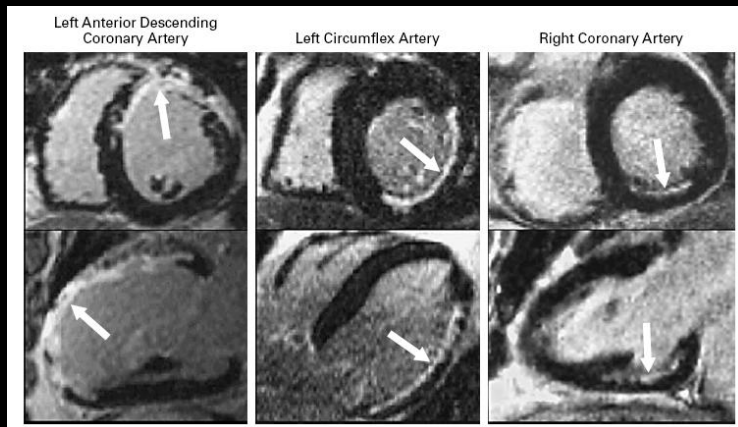


CONTRAST-ENHANCED MAGNETIC RESONANCE IMAGING TO IDENTIFY REVERSIBLE MYOCARDIAL DYSFUNCTION

THE USE OF CONTRAST-ENHANCED MAGNETIC RESONANCE IMAGING TO IDENTIFY REVERSIBLE MYOCARDIAL DYSFUNCTION

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November 16, 2000



Cardiac Imaging

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Index terms:
Animals

An Improved MR Imaging Technique for the Visualization of Myocardial Infarction¹

PURPOSE: To design a segmented inversion-recovery turbo fast low-angle shot (turboFLASH) magnetic resonance (MR) imaging pulse sequence for the visualization of myocardial infarction, compare this technique with other MR imaging approaches in a canine model of ischemic injury, and evaluate its utility in patients with coronary artery disease.

Radiology 2001; 218:215-223

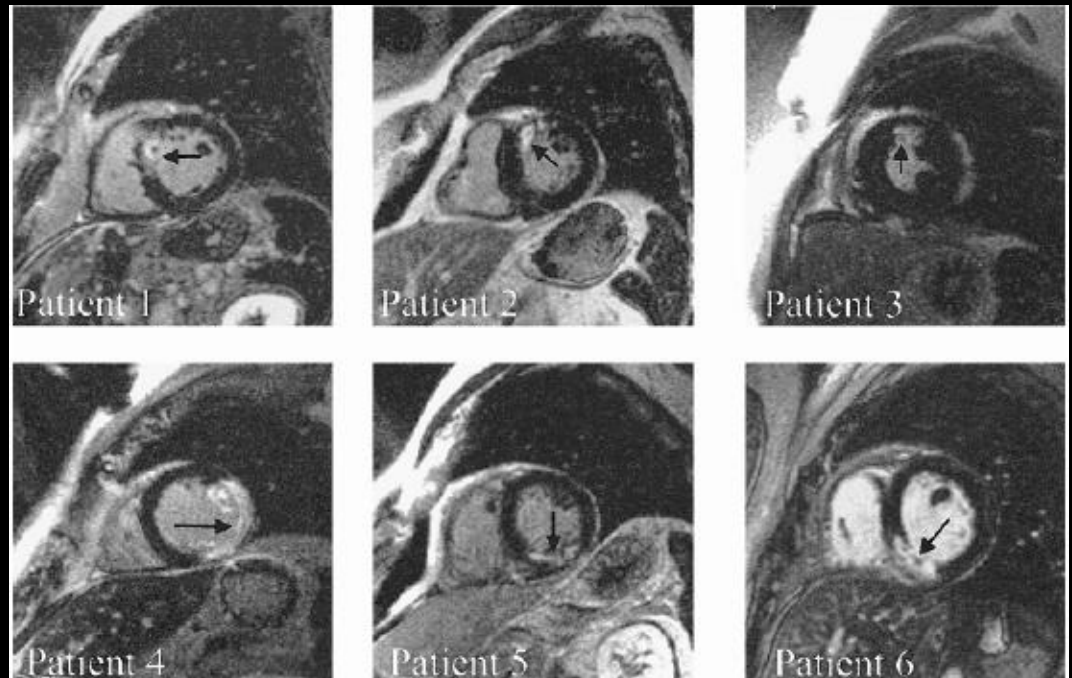
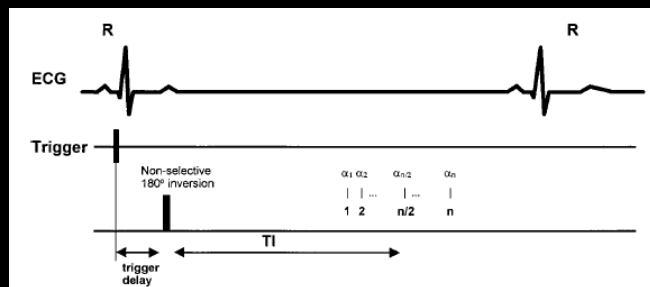


Figure 5. Short-axis images obtained in six patients by using the segmented turboFLASH sequence. The arrows point to the region of infarction. Note the high contrast between the infarcted (ie, high-signal-intensity) versus normal (ie, low-signal-intensity) myocardium.

MR first pass imaging: quantitative assessment of transmural perfusion and collateral flow*

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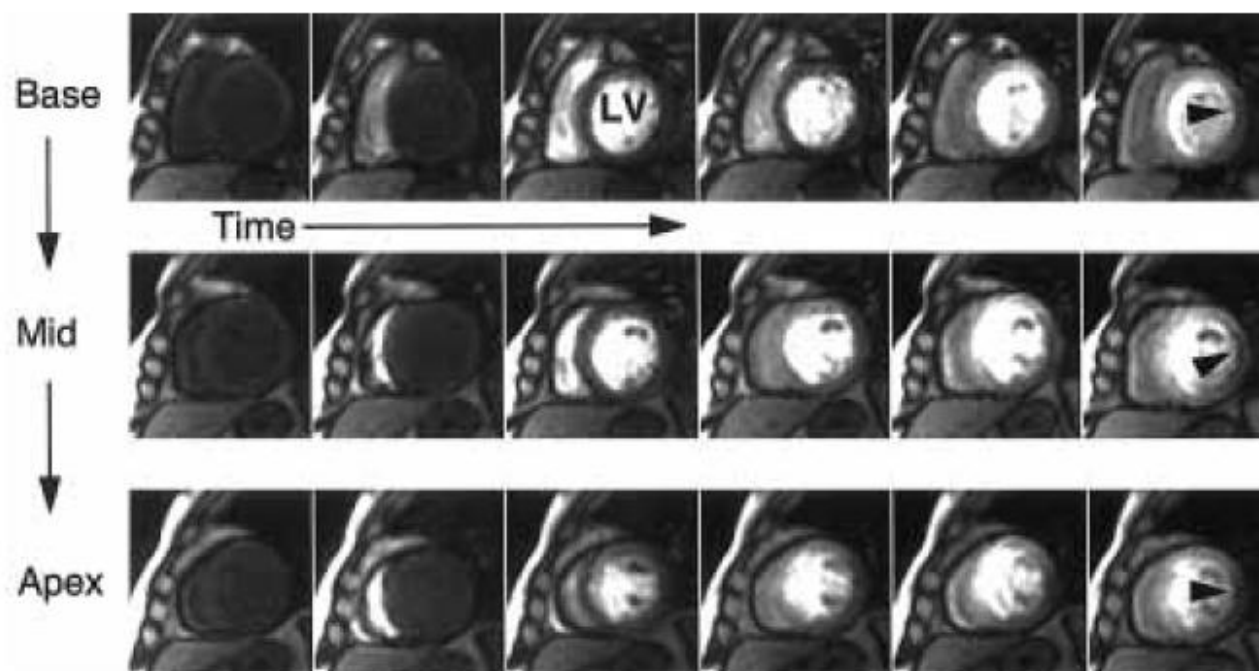


Figure 9. First images acquired with the AICE technique in a patient post angioplasty 2 hours after acute myocardial infarction. X-ray angiography pre and post angioplasty suggested that the patency of the LCx was successfully restored with a remaining 25% stenosis.

Limits of Detection of Regional Differences in Vasodilated Flow in Viable Myocardium by First-Pass Magnetic Resonance Perfusion Imaging

Francis J. Klocke, MD; Orlando P. Simonetti, PhD; Robert M. Judd, PhD; Raymond J. Kim, MD; Kathleen R. Harris, BA; Sascha Hedjbeli, MS; David S. Fieno, PhD; Stephan Miller, MD; Vicky Chen, BA; Michele A. Parker, MS

November 13, 2001

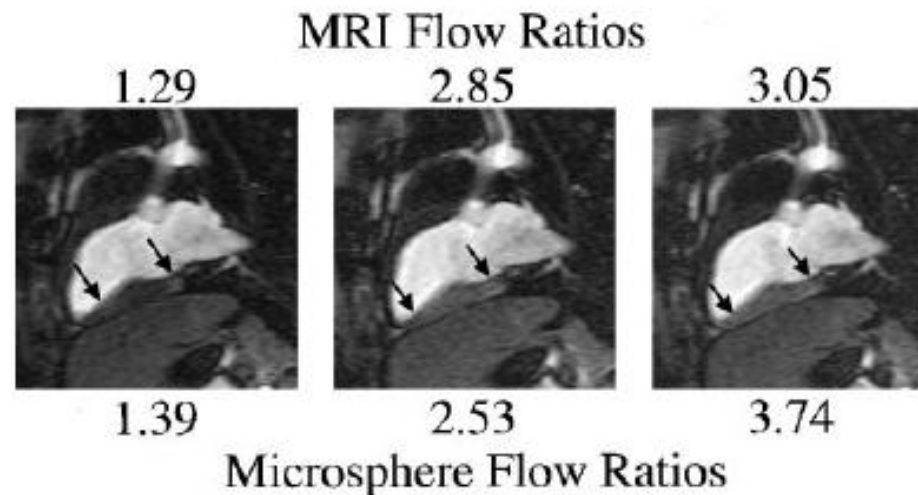


Figure 4. First-pass MR images from animal studied under basal conditions (left) and during 2 degrees of adenosine-induced LCx vasodilation (center and right). Arrows outline vasodilated LCx area. LCx/septal MRI curve area ratios and microsphere flow ratios are shown above and below images, respectively.



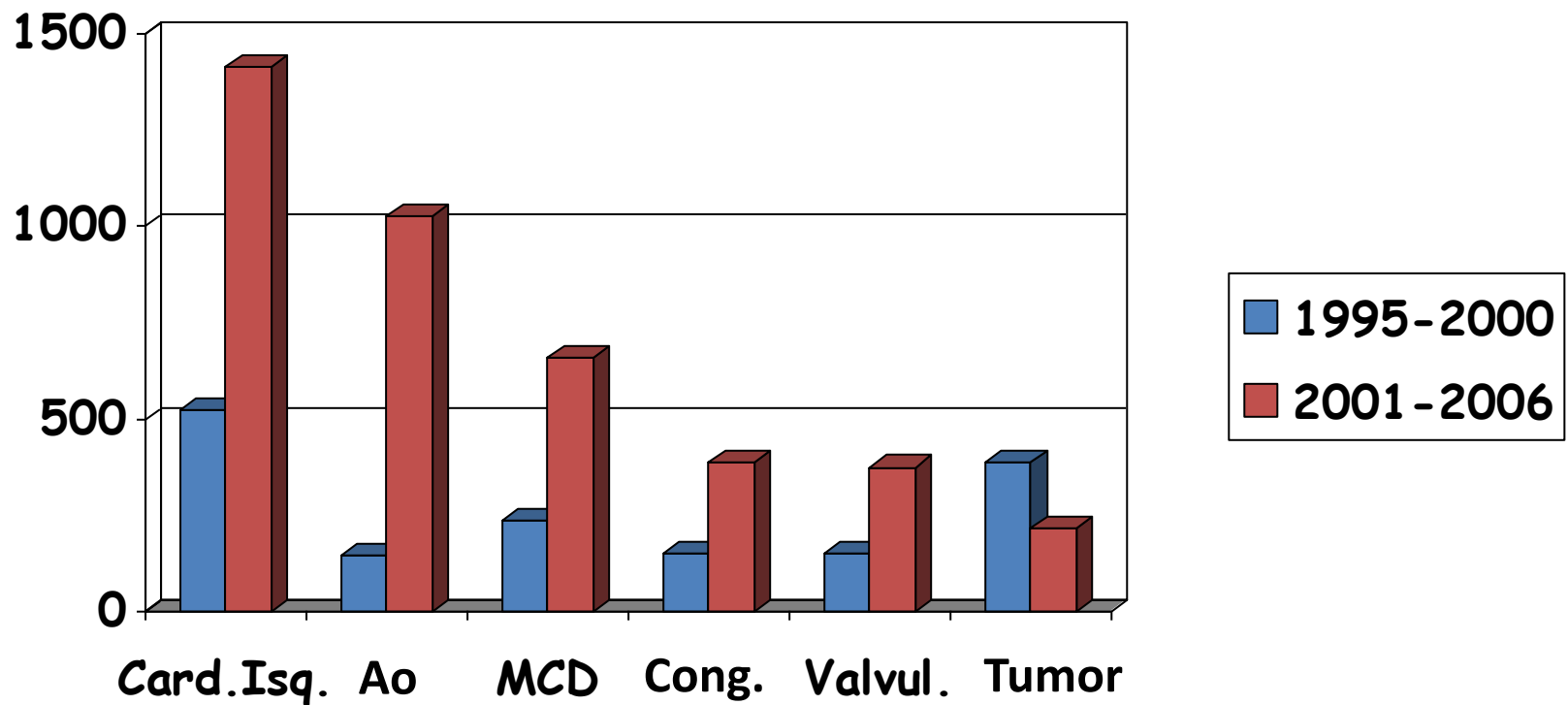
Editorial comment

Perfusion cardiovascular magnetic resonance: time for a qualitative approach for clinical use?

In response to the article by Penelope R. Sensky et al.

Magnetic resonance perfusion imaging in patients with coronary artery disease: a qualitative approach

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Expert Consensus Document

ACCF/ACR/AHA/NASCI/SCMR 2010 Expert Consensus Document on Cardiovascular Magnetic Resonance A Report of the American College of Cardiology Foundation Task Force on Expert Consensus Documents

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Estudio de perfusión miocárdica por cardiorresonancia magnética: comparación con la angiografía coronaria

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TAMAÑO DEL INFARTO Y PRONÓSTICO

Infarct size by contrast enhanced cardiac magnetic resonance is a stronger predictor of outcomes than left ventricular ejection fraction or end-systolic volume index: prospective cohort study

Edwin Wu MD, Jose T Ortiz MD, Paula Tejedor MD, Daniel C Lee MD, Chiara Bucciarelli-Ducci MD, Preeti Kansal MD, James C Carr MD, Thomas A Holly MD, Donald Lloyd-Jones MD ScM, Francis J Klocke MD, Robert O Bonow MD

- N = 113
- 1er IAM + ACTP 1ª exitosa
- CRM 1 semana/4 meses
- Seguimiento 2 años: 14 % eventos



Taula Rodona:

RESSONÀNCIA MAGNÈTICA EN CARDIOLOGIA

Ponents:

Dra. Sandra Pujadas (Hospital de la Santa Creu i Sant Pau, Barcelona)

Estudi de la perfusió miocàrdica a la cardiopatia isquèmica: una alternativa al SPECT?

Dr. José Ortiz (Hospital Clínic, Barcelona)

Utilitat de la CardioRM per l'estudi i valoració pronòstica del pacient amb infart de miocardi

CAS CLÍNIC

Presentat per:

Dr. Chi-Hion Li (Hospital de la Santa Creu i Sant Pau, Barcelona)

