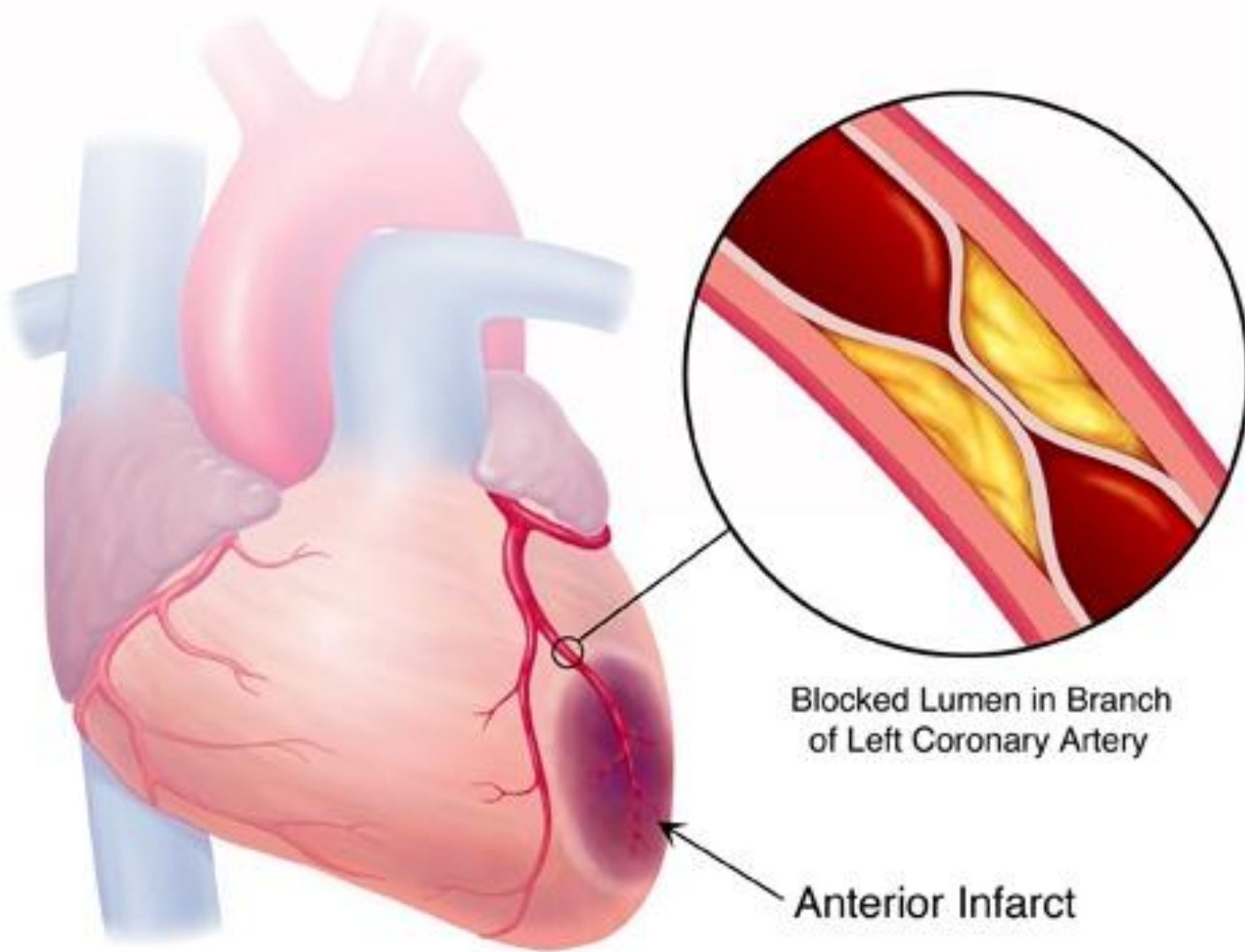


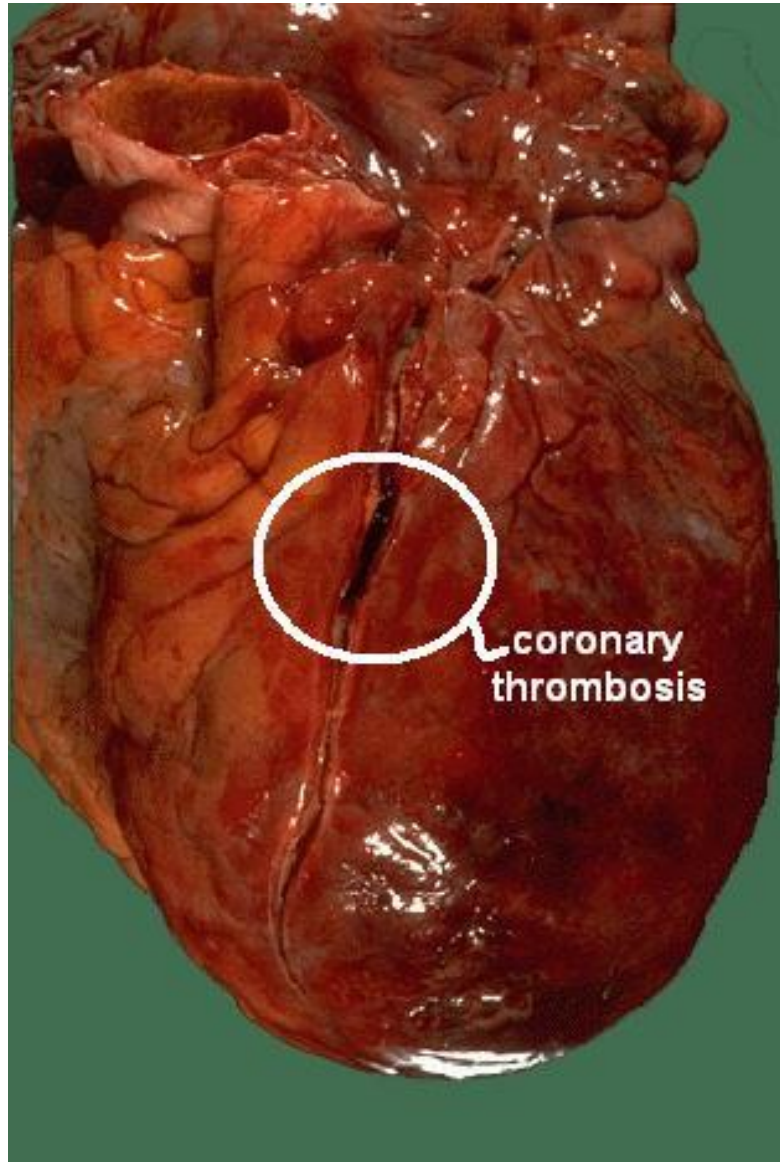
Nueva visión de la enfermedad coronaria

Camilo Andrés Cortes Álzate
Estudiante XI semestre









REVIEW ARTICLE

MECHANISMS OF DISEASE

Mechanisms of Acute Coronary Syndromes and Their Implications for Therapy

Peter Libby, M.D.

- “If the progression of luminal stenosis to a critical narrowing does not cause many acute coronary syndromes, what mechanism produces these dramatic and sudden manifestations?”

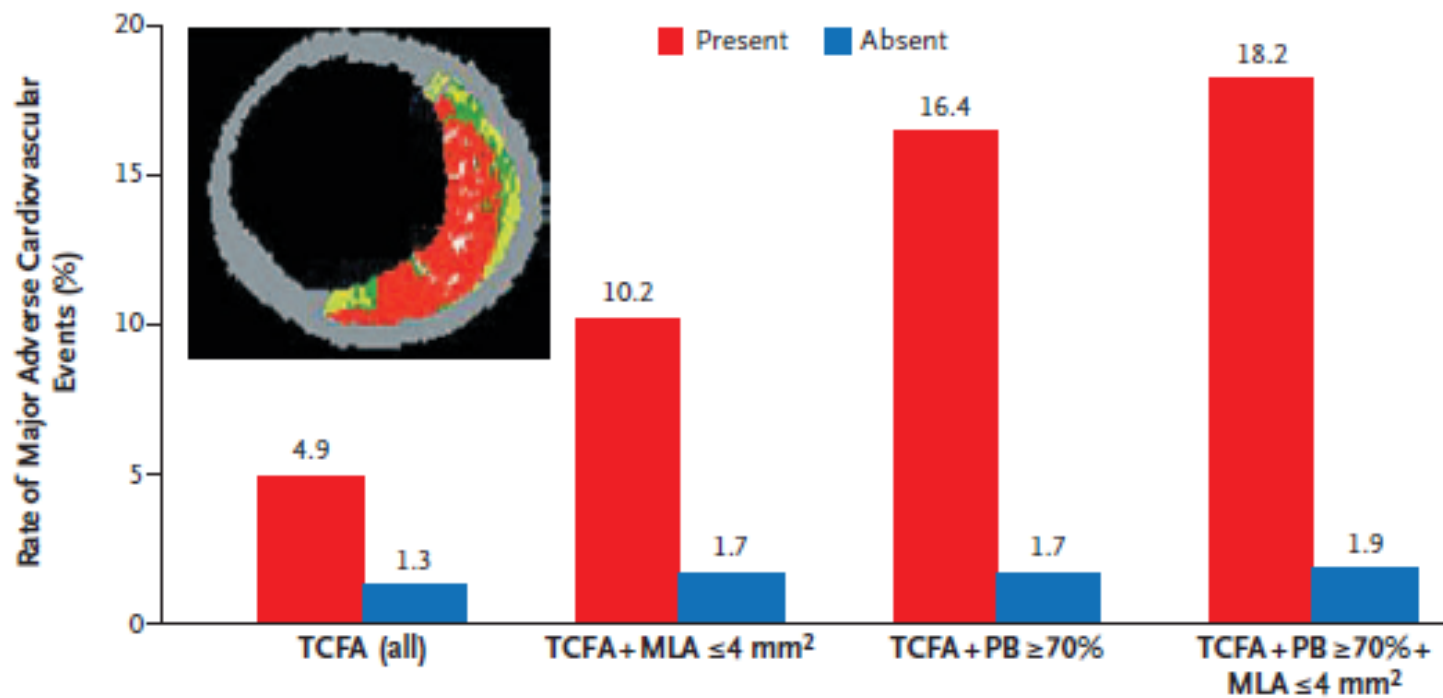
ORIGINAL ARTICLE

A Prospective Natural-History Study of Coronary Atherosclerosis

Gregg W. Stone, M.D., Akiko Maehara, M.D., Alexandra J. Lansky, M.D.,
Bernard de Bruyne, M.D., Ecaterina Cristea, M.D., Gary S. Mintz, M.D.,
Roxana Mehran, M.D., John McPherson, M.D., Naim Farhat, M.D.,
Steven P. Marso, M.D., Helen Parise, Sc.D., Barry Templin, M.B.A.,
Roseann White, M.A., Zhen Zhang, Ph.D., and Patrick W. Serruys, M.D., Ph.D.,
for the PROSPECT Investigators*

BACKGROUND

Atherosclerotic plaques that lead to acute coronary syndromes often occur at sites of angiographically mild coronary-artery stenosis. Lesion-related risk factors for such events are poorly understood.



Lesion hazard ratio (95% CI)	3.90 (2.25–6.76)	6.55 (3.43–12.51)	10.83 (5.55–21.10)	11.05 (4.39–27.82)
P value	<0.001	<0.001	<0.001	<0.001
Prevalence (%)	46.7	15.9	10.1	4.2

The Occluded Artery Trial (OAT) Viability Ancillary Study (OAT-NUC): Influence of Infarct Zone Viability on Left Ventricular Remodeling After Percutaneous Coronary Intervention vs. Optimal Medical Therapy Alone

James E Udelson, MD¹, Camille A Pearte, MD, MPH², Carey D Kimmelstiel, MD¹, Mariusz Kruk, MD⁵, Joseph A. Kufera, MA³, Sandra A Forman, MA⁴, Anna Teresinska, MD⁵, Bartosz Bychowiec, MD⁶, Jose Antonio Marin-Neto, MD⁷, Thomas Höchtel, MD⁸, Eric A Cohen, MD⁹, Paulo Caramori, MD, PhD¹⁰, Benita Busz-Papiez, MD¹¹, Christopher Adlbrecht, MD, MBA¹², Zygmunt P Sadowski, MD⁵, Witold Ruzyllo, MD⁵, Debra J Kinan, RT(N)¹, Gervasio A Lamas, MD¹³, and Judith S Hochman, MD²

Background—The Occluded Artery Trial (OAT) showed no difference in outcomes between percutaneous coronary intervention (PCI) vs. optimal medical therapy (MED) in patients with persistent total occlusion of the infarct related artery (IRA) 3–28 days post-MI. Whether PCI may benefit a subset of patients with preservation of infarct zone (IZ) viability is unknown.

Methods and Results—The OAT nuclear ancillary study hypothesized that; 1) IZ viability influences left ventricular (LV) remodeling, and that 2) PCI as compared to MED attenuates adverse remodeling in post-MI patients with preserved viability. Enrolled were 124 OAT patients, who underwent resting nitroglycerin-enhanced ^{99m}Tc sestamibi SPECT prior to OAT randomization, with repeat imaging at 1 year. All images were quantitatively analyzed for infarct size, IZ viability, LV volumes and function in a core lab. At baseline, mean infarct size was 26% ±18 of the LV, mean IZ viability was 43%±8 of peak uptake, and the majority (70%) of patients had at least moderately retained IZ viability. There were no significant differences in 1-year EDV or ESV change between those with severely reduced vs. moderately retained IZ viability, or when compared by treatment assignment PCI vs. MED. In multivariable models, increasing baseline viability independently predicted improvement in EF (p=0.005). There was no interaction between IZ viability and treatment assignment for any measure of LV remodeling.

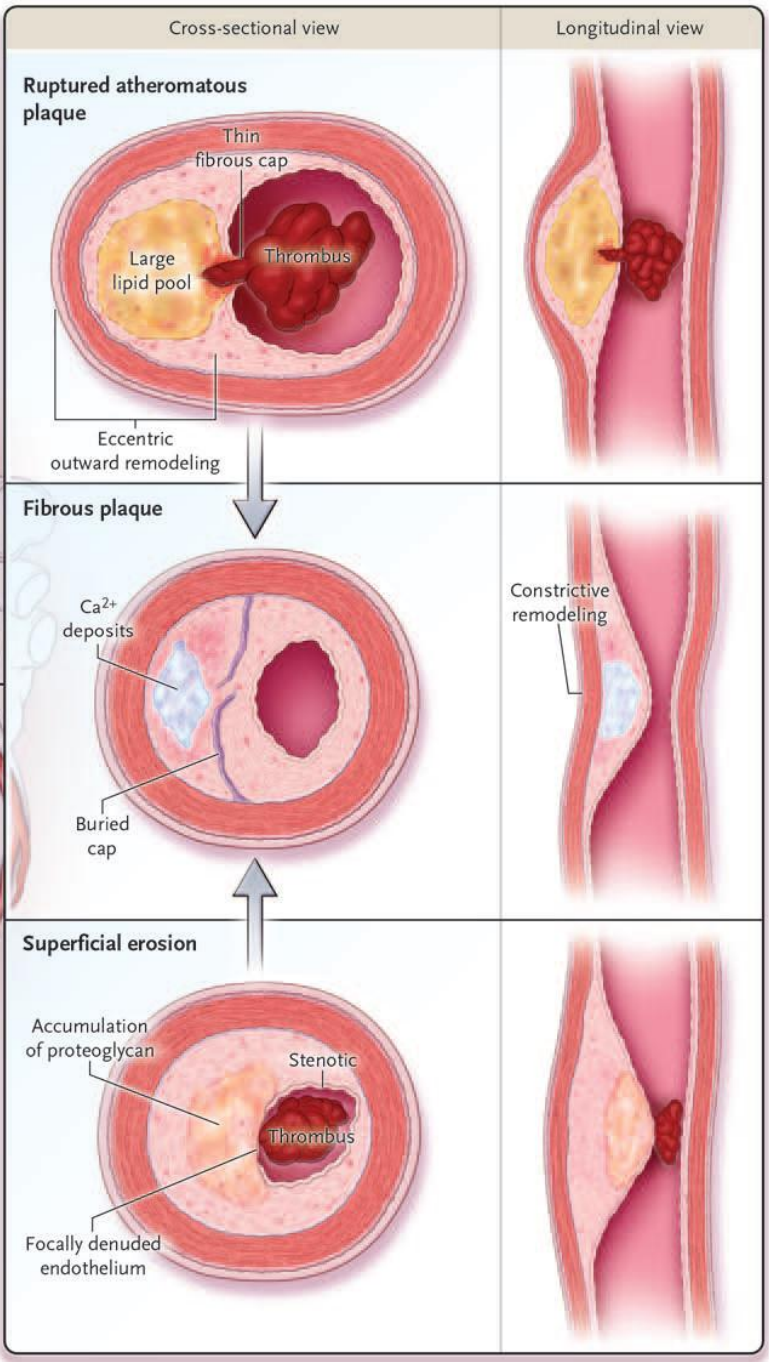
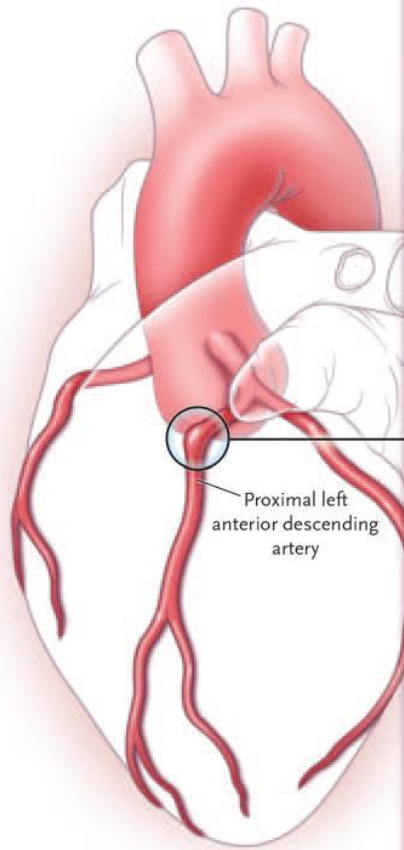
Conclusions—In the contemporary era of optimal medical therapy, PCI of the IRA compared to medical therapy alone does not impact LV remodeling irrespective of IZ viability.

REVIEW ARTICLE

MECHANISMS OF DISEASE

Mechanisms of Acute Coronary Syndromes and Their Implications for Therapy

Peter Libby, M.D.



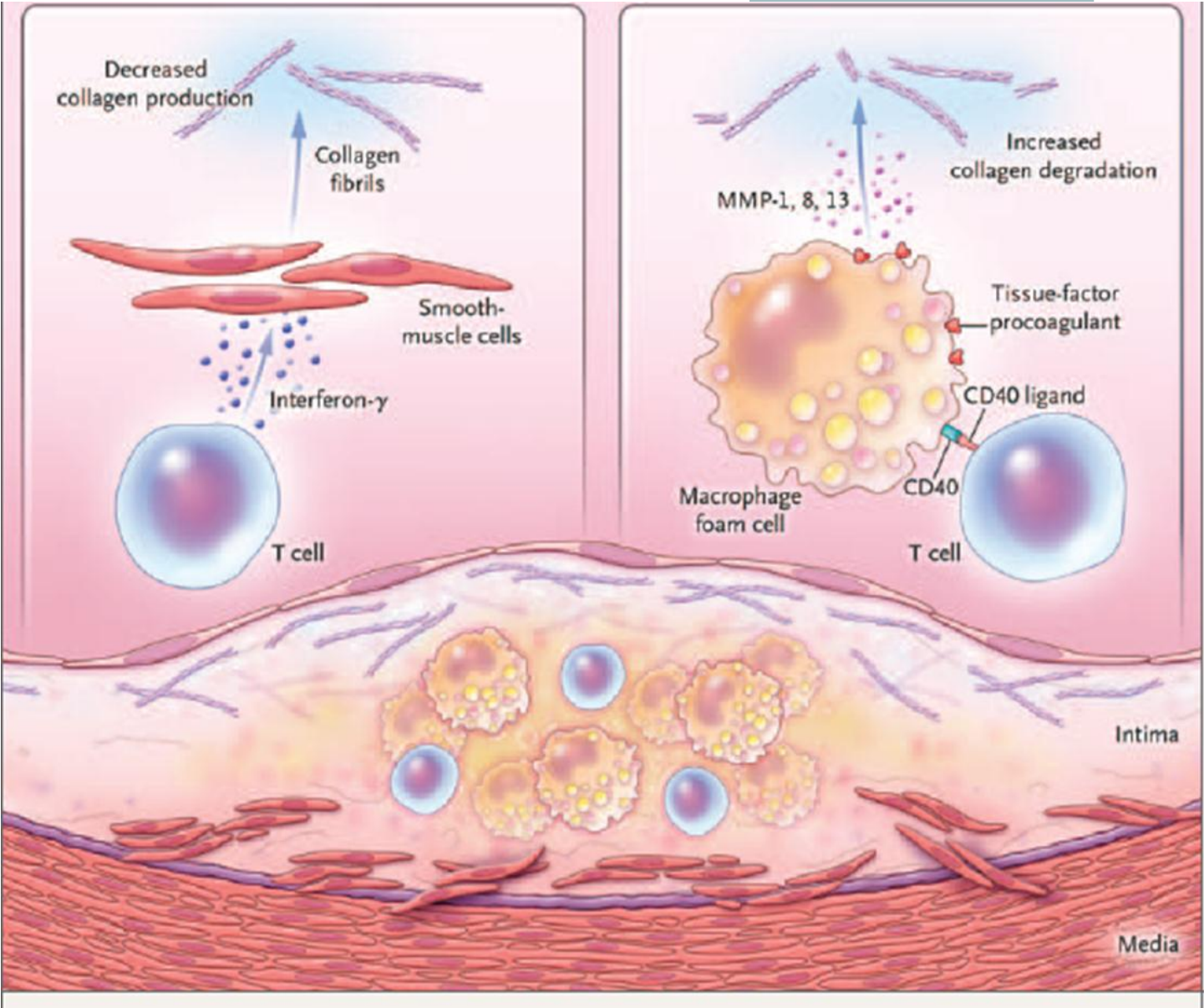


Table 1. Interventions That Increase Collagen Content of Atherosclerotic Lesions in Studies in Animals.*

Intervention	Species	Source of Data
Reduction of dietary lipids	Rabbit	Aikawa et al. ³¹
Treatment with statins	Rabbit	Fukumoto et al. ³²
Introduction of a mutation that renders resistance to collagenase	Mouse	Fukumoto et al. ³³
Induction of MMP-13 deficiency	Mouse	Deguchi et al. ³⁴
Induction of MMP-14 deficiency	Mouse	Schneider et al. ³⁵
Treatment with MMP-13 inhibitor	Mouse	Quillard et al. ³⁶

* MMP denotes matrix metalloproteinase.

Effects of statins on matrix metalloproteinases and their endogenous inhibitors in human endothelial cells

**Tatiane C. Izidoro-Toledo • Danielle A. Guimaraes •
Vanessa A. Belo • Raquel F. Gerlach •
Jose Eduardo Tanus-Santos**

Lipophilic statins prevent matrix metalloproteinase-mediated cartilage collagen breakdown by inhibiting protein geranylgeranylation

Matt J Barter¹, Wang Hui², Rachel L Lakey¹, John B Catterall³, Tim E Cawston¹, David A Young¹

Conclusions This study shows, for the first time, that lipophilic statins are able to block cartilage collagen breakdown induced by proinflammatory cytokines, by downregulating key cartilage-degrading enzymes. This demonstrates a possible therapeutic role for statins in acting as anti-inflammatory agents and in protecting cartilage from damage in joint diseases.

THE LANCET

The effects of lowering LDL cholesterol with statin therapy in people at low risk of vascular disease: meta-analysis of individual data from 27 randomised trials

Interpretation

In individuals with 5-year risk of major vascular events lower than 10%, each 1 mmol/L reduction in LDL cholesterol produced an absolute reduction in major vascular events of about 11 per 1000 over 5 years. This benefit greatly exceeds any known hazards of statin therapy. Under present guidelines, such individuals would not typically be regarded as suitable for LDL-lowering statin therapy. The present report suggests, therefore, that these guidelines might need to be reconsidered.

Funding

British Heart Foundation; UK Medical Research Council; Cancer Research UK; European Community Biomed Programme; Australian National Health and Medical Research Council; National Heart Foundation, Australia.

Circulation

JOURNAL OF THE AMERICAN HEART ASSOCIATION



Optimal Medical Therapy With or Without Percutaneous Coronary Intervention to Reduce Ischemic Burden : Results From the Clinical Outcomes Utilizing Revascularization and Aggressive Drug Evaluation (COURAGE) Trial Nuclear Substudy

Leslee J. Shaw, Daniel S. Berman, David J. Maron, G. B. John Mancini, Sean W. Hayes, Pamela M. Hartigan, William S. Weintraub, Robert A. O'Rourke, Marcin Dada, John A. Spertus, Bernard R. Chaitman, John Friedman, Piotr Slomka, Gary V. Heller, Guido Germano, Gilbert Gosselin, Peter Berger, William J. Kostuk, Ronald G. Schwartz, Merrill Knudtson, Emir Veledar, Eric R. Bates, Benjamin McCallister, Koon K. Teo and William E. Boden

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Fibrinolysis or Primary PCI in ST-Segment Elevation Myocardial Infarction

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CONCLUSIONS

Prehospital fibrinolysis with timely coronary angiography resulted in effective reperfusion in patients with early STEMI who could not undergo primary PCI within 1 hour after the first medical contact. However, fibrinolysis was associated with a slightly increased risk of intracranial bleeding. (Funded by Boehringer Ingelheim; ClinicalTrials.gov number, NCT00623623.)

Management of stable angina: summary of NICE guidance

BMJ 2011; 343 doi: <http://dx.doi.org/10.1136/bmj.d4147> (Published 5 August 2011)

Cite this as: *BMJ* 2011;343:d4147

- “Treatment strategy should be discussed for, but not be limited to:
 - People with left main stem or anatomically complex three vessel disease”

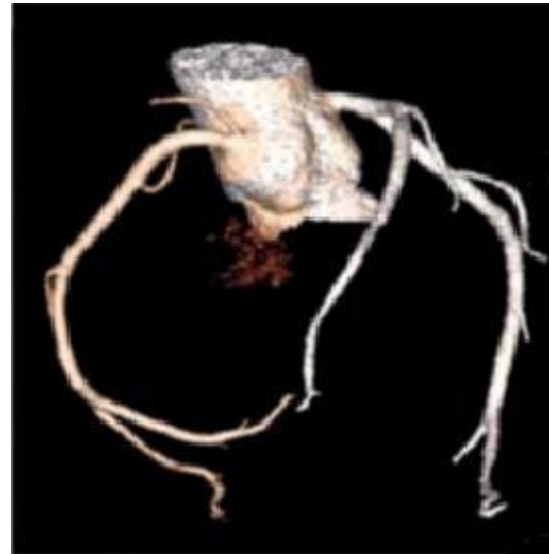
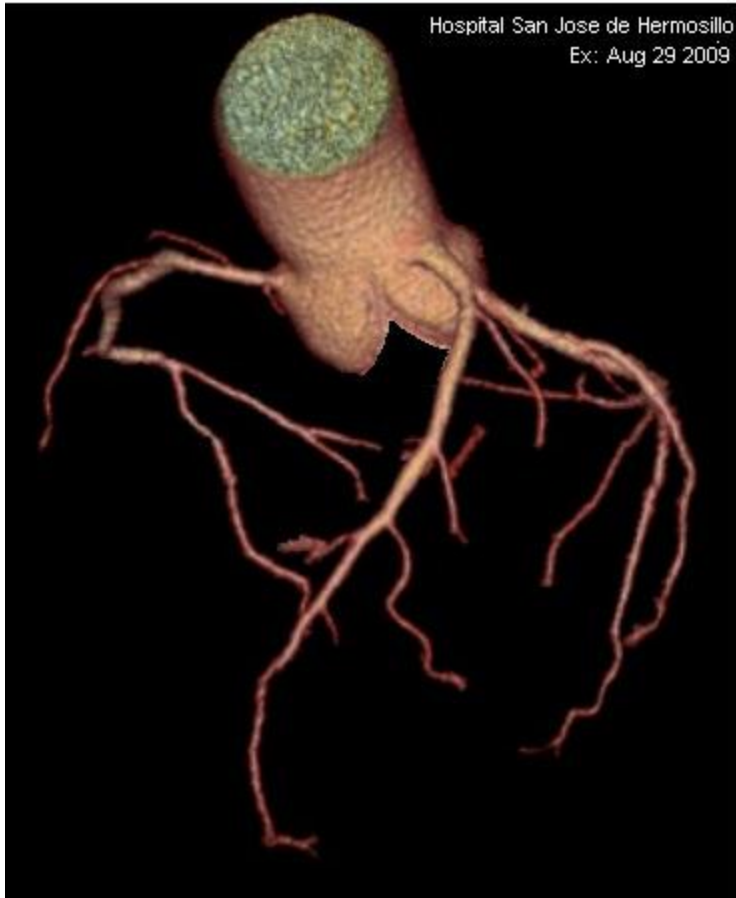
Age- and Sex-Related Differences in All-Cause Mortality Risk Based on Coronary Computed Tomography Angiography Findings

Results From the International Multicenter CONFIRM (Coronary CT Angiography Evaluation for Clinical Outcomes: An International Multicenter Registry) of 23,854 Patients Without Known Coronary Artery Disease

James K. Min, MD,* Allison Dunning, MS,‡ Fay Y. Lin, MD,† Stephan Achenbach, MD,§
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Tracy Q. Callister, MD,** Hyuk-Jae Chang, MD,†† Victor Cheng, MD,‡‡ Kavitha Chinnaiyan, MD,§§
Benjamin J. W. Chow, MD,|||| Augustin Delago, MD,¶¶ Martin Hadamitzky, MD,##
Joerg Hausleiter, MD,### Philipp Kaufmann, MD,*** Erica Maffei, MS,# Gilbert Raff, MD,§§
Leslee J. Shaw, PhD,††† Todd Villines, MD,‡‡‡ Daniel S. Berman, MD,‡‡ for the
CONFIRM Investigators

New York and Albany, New York; Erlangen and Munich, Germany; Detroit and Royal Oaks, Michigan; Los Angeles, California; Parma, Italy; Hendersonville, Tennessee; Seoul, Korea; Ottawa, Ontario, Canada; Zurich, Switzerland; Atlanta, Georgia; and Washington, DC

Angiotac. Seria una nueva medida?



CT Angiography for Safe Discharge of Patients with Possible Acute Coronary Syndromes

Harold I. Litt, M.D., Ph.D., Constantine Gatsonis, Ph.D., Brad Snyder, M.S., Harjit Singh, M.D., Chadwick D. Miller, M.D., Daniel W. Entrikin, M.D., James M. Leaming, M.D., Laurence J. Gavin, M.D., Charissa B. Pacella, M.D., and Judd E. Hollander, M.D.

CONCLUSIONS

A CCTA-based strategy for low-to-intermediate-risk patients presenting with a possible acute coronary syndrome appears to allow the safe, expedited discharge from the emergency department of many patients who would otherwise be admitted. (Funded by the Commonwealth of Pennsylvania Department of Health and the American College of Radiology Imaging Network Foundation; ClinicalTrials.gov number, NCT00933400.)

Age- and Sex-Related Differences in All-Cause Mortality Risk Based on Coronary Computed Tomography Angiography Findings

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Zurich, Switzerland; Atlanta, Georgia; and Washington, DC*

Conclusiones

- GRACIAS