

Revascularization in Ischemic Heart Failure

Understanding the Current Guidelines

David J. Cohen, M.D., M.Sc.

Director of Cardiovascular Research
Saint Luke's Mid America Heart Institute

Professor of Medicine
University of Missouri-Kansas City

Disclosures

Grant Support/Drugs

- Daiichi-Sankyo
- Astra-Zeneca
- Eli Lilly

Grant Support/Devices

- Edwards Lifesciences
- Medtronic
- Cordis
- Abbott Vascular
- Boston Scientific

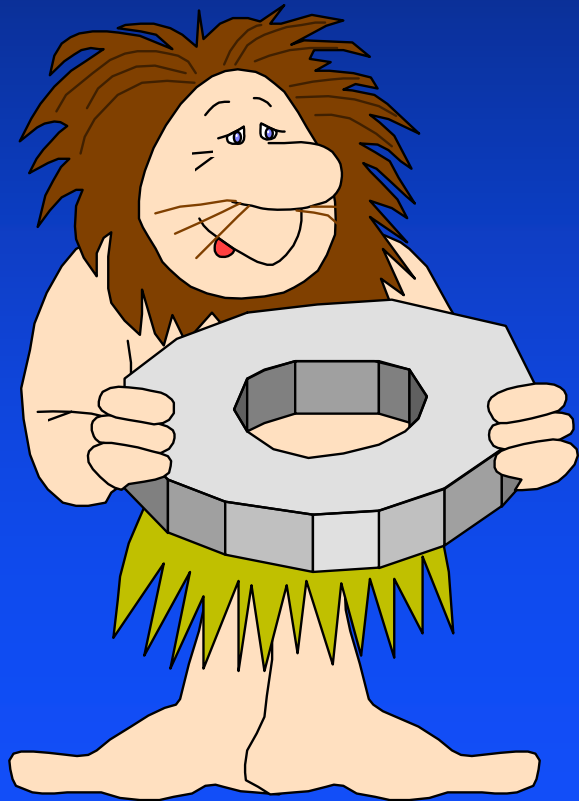
Consulting/Advisory Boards

- Medtronic
- Abbott Vascular
- Boehringer-Ingelheim

Background

- With improved management of valve disease and HTN, as well as improved short-term survival after AMI, CAD has become the most common cause of chronic heart failure
- Classically, myocardial ischemia (and more specifically hibernating myocardium) has been considered one of the few reversible causes of chronic heart failure
- Until recently, however, this issue has not been examined in rigorous, well-designed clinical trials

Historically, what is the evidence of benefit for revascularization in ischemic HF?



Evidence for Revascularization in Ischemic HF

- Cross sectional data
- Observational studies
- RCT subgroup analyses

Evidence for Revascularization in Ischemic Heart Failure

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Impact of Coronary Anatomy and LV Function on Survival in CHD

5-year survival in medically managed patients with CHD

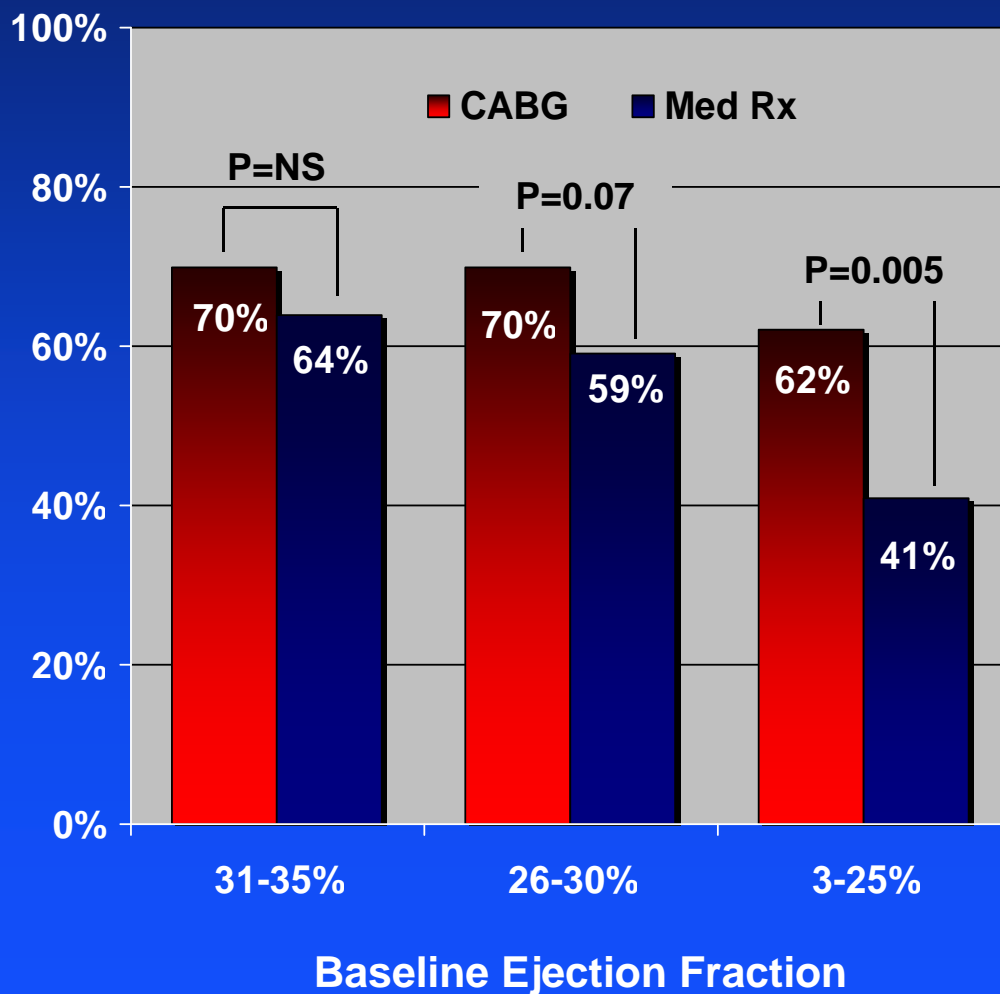
	Left Ventricular Ejection Fraction		
	>50%	35-50%	<35%
1Vdz	95	91	74
2Vdz	93	83	57
3Vdz	82	71	50

Evidence for Revascularization in Ischemic Heart Failure

- Cross sectional data
- Observational studies
- RCT subgroup analyses

CABG in Severe LV Dysfunction

Risk-Adjusted 5-yr Survival

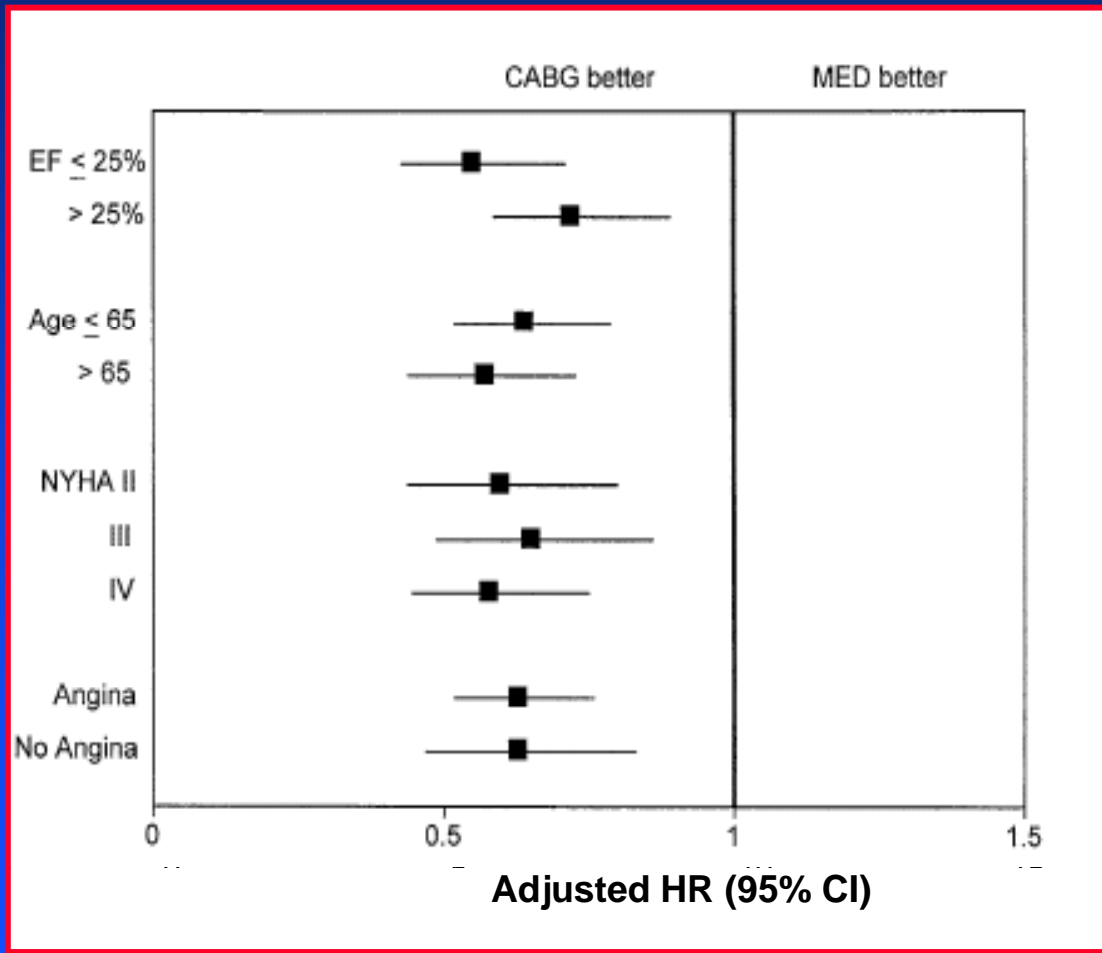


CASS Registry Substudy

- 651 pts with CAD and EF<35%
- Overall, risk adjusted mortality strongly favors CABG (68% vs. 54%, p=0.007)
- Benefits of CABG mainly in patients with angina as principal symptom (vs. CHF)
- Absolute benefits greatest in patients with most severe LV dysfunction

CABG in Ischemic Cardiomyopathy

Risk-Adjusted Survival



Duke Databank

- 1391 pts with HF, EF $<$ 40%, and 1-3 vessel CAD who underwent initial cath between 1969 and 1994
- Both unadjusted and risk-adjusted analyses demonstrated significant survival advantage with revascularization
- Survival advantage consistent regardless of extent of CAD and sx severity

Evidence for Revascularization in Ischemic Heart Failure

- Cross sectional data
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CASS Trial: 10-Yr Survival

	Med Rx	CABG	P-Value
LVEF >50%	84%	83	NS
1-vdz	85%	87	NS
2-vdz	84%	84	NS
3-vdz	84%	78	NS
LVEF 35-50%	61	79	0.01
1-vdz	56	88	NS
2-vdz	65	92	NS
3-vdz	58	75	0.08

Note: Significant survival advantage in 3-vdz + reduced LVEF group at 5 and 7-year follow-up

HFSA 2010 Guideline Executive Summary

Executive Summary: HFSA 2010 Comprehensive Heart Failure Practice Guideline

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ABSTRACT

Heart failure (HF) is a syndrome characterized by high mortality and a complex therapeutic regimen. Knowledge of HF pathophysiology and clinical management may be unable to readily and adequately inform clinical care for patients with this syndrome. Trial data, individual patient management. These characteristics make the 2010 Heart Failure Society of America comprehensive guideline, care, and management of patients with HF. **Key Words:** Heart failure, practice guidelines.

From the ¹Department of Cardiology, University of Colorado Health Sciences Center, Denver, CO.

The document should be cited as follows: Lindenfeld J, Albert NM, Boehmer JP, Collins SP, Ezekowitz JA, Givertz MM, Klapholz M, Moser DK, Rogers JG, Starling RC, Stevenson WG, Tang WHW, Teerlink JR, Walsh MN. Executive Summary: HFSA 2010 Comprehensive Heart Failure Practice Guideline. J Card Fail 2010;16:475-539.

doi:10.1016/j.cardfail.2010.04.005

HF Practice Guidelines

- Initially published in 2006 → updated in 2010 (prior to STICH trial)
- 17 sections
- 195 pages
- >1000 references

HFSA Guidelines: Strength of Recommendation

“Is recommended”

- Part of routine care
- Exceptions to therapy should be minimized

HFSA Guidelines: Strength of Recommendation

<i>“Is recommended”</i>	<ul style="list-style-type: none">• Part of routine care• Exceptions to therapy should be minimized
<i>“Should be considered”</i>	<ul style="list-style-type: none">• Majority of pts should receive the intervention• Some discretion allowed

HFSA Guidelines: Strength of Recommendation

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<i>“Is not recommended”</i>	<ul style="list-style-type: none">• Intervention should not be used

HFSA 2010 Practice Guideline

HF and Ischemic Disease

Evaluation for CAD

It ***is recommended*** that patients with HF and symptoms suggestive of angina undergo cardiac catheterization with coronary angiography to assess for potential revascularization.

Strength of Evidence = B

HFSA 2010 Practice Guideline

HF and Ischemic Disease

Evaluation for CAD

Any of the following imaging tests ***should be considered*** to identify inducible ischemia or viable myocardium:

- Exercise or pharmacologic stress MPI
- Exercise or pharmacologic stress echocardiography
- Cardiac MRI
- Positron emission tomography (PET) scanning

Strength of Evidence = B

HFSA 2010 Practice Guideline

HF and Ischemic Disease

Revascularization

It ***is recommended*** that coronary revascularization be performed in patients with HF and suitable coronary anatomy for relief of refractory angina or acute coronary syndrome.

Strength of Evidence = B

HFSA 2010 Practice Guideline

HF and Ischemic Disease

Revascularization

- Coronary revascularization with CABG or PCI as appropriate **should be considered** in patients with HF and suitable coronary anatomy who have
 - *demonstrable evidence of myocardial viability in areas of significant obstructive coronary disease*
 - or *the presence of inducible ischemia*

Strength of Evidence =C

Summary

- Current guidelines for management of HF strongly recommend evaluation for underlying ischemic etiology and aggressive use of coronary revascularization—

Whether we should modify these recommendations on the basis of the STICH trial results seems like a good topic for a debate!

- And they do not reflect contemporary care for HF (ACE-I, B-blockers, ICDs, etc.) or for CAD (antiplatelet rx, statins)