

Aspirin for Primary Prevention of CV disease in Men >45

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ASA: Primary Prevention

- Should all men 45 and over take aspirin for primary prevention of CV disease?
- YES!

ASA: Primary Prevention

- Considering a therapy in Primary Prevention:
 1. Evidence that benefits exceed risks by an "appropriate" margin
 2. Not cost prohibitive

ASA: Primary Prevention Cost

- Cost: ~3 cents/day ~\$1/month
- Dutch population study: QALY threshold of 20,000 euros. ASA cost-effective in men > 55

ASA:Primary Prevention

- Physicians Health Study (1981-84)
- 22,071 male MDs, 40-84 (mean 53)
- 325 mg qod, f/u 5 years
- 44% reduction in MI ($p < 0.00001$)
- No significant effect on mortality
- Slight, non-significant increase in CVA

NEJM 1989;321:129-135

ASA:Primary Prevention

- Physicians Health Study (1989)-22,071
- British Doctors Trial (1988)-5,139
- Thrombosis Prevention Trial (1998)-5,085
- Hypertension Optimal Treatment (1998)-18,790
- Primary Prevention Project (2001)-4,495
- Women's Health Study (2005)-39,876

ASA: Primary Prevention

- Variation in male/female enrollment
- Aspirin dose: 75 mg to 500 mg qd
- In general--low risk pts

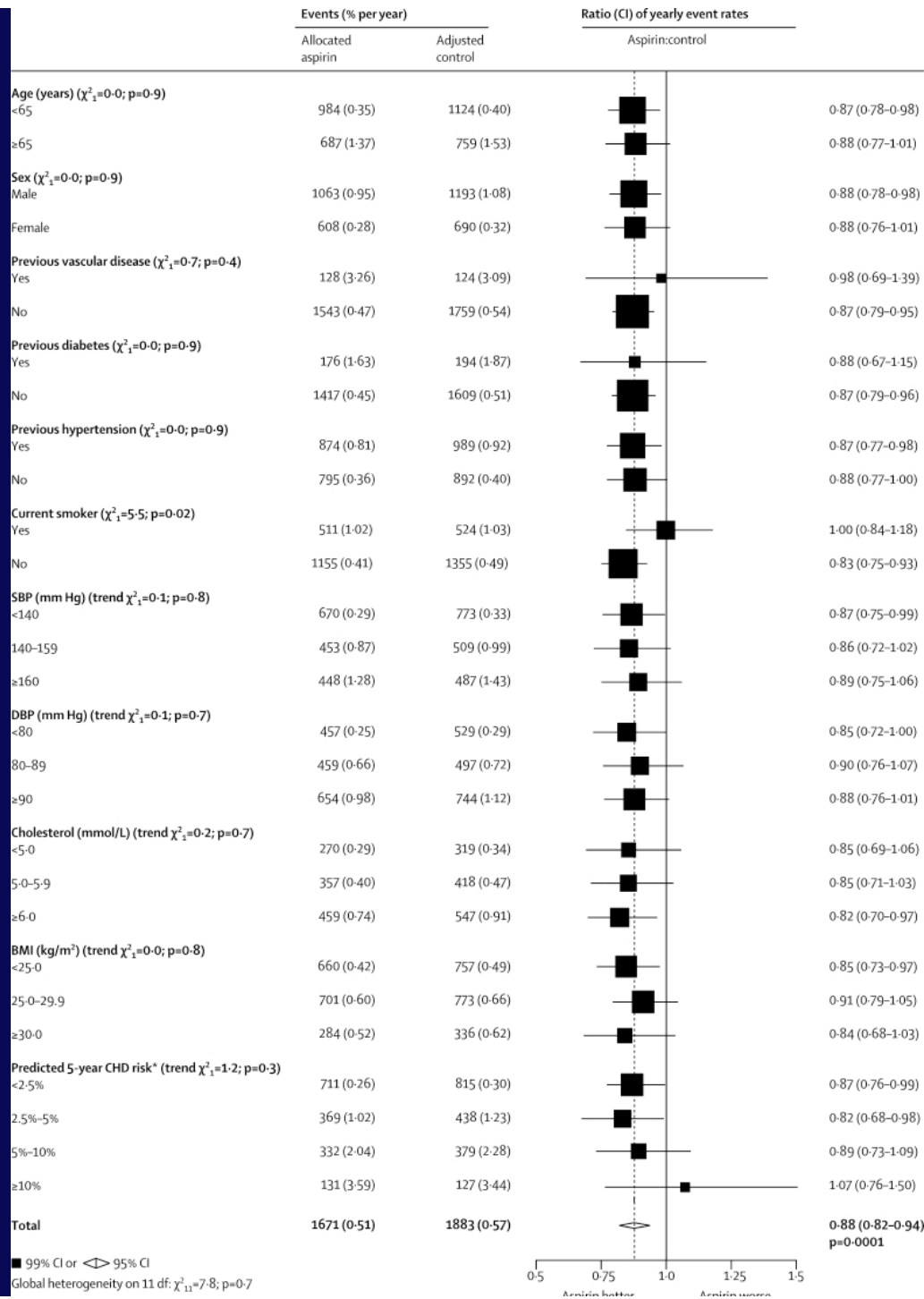
ASA:Primary Prevention

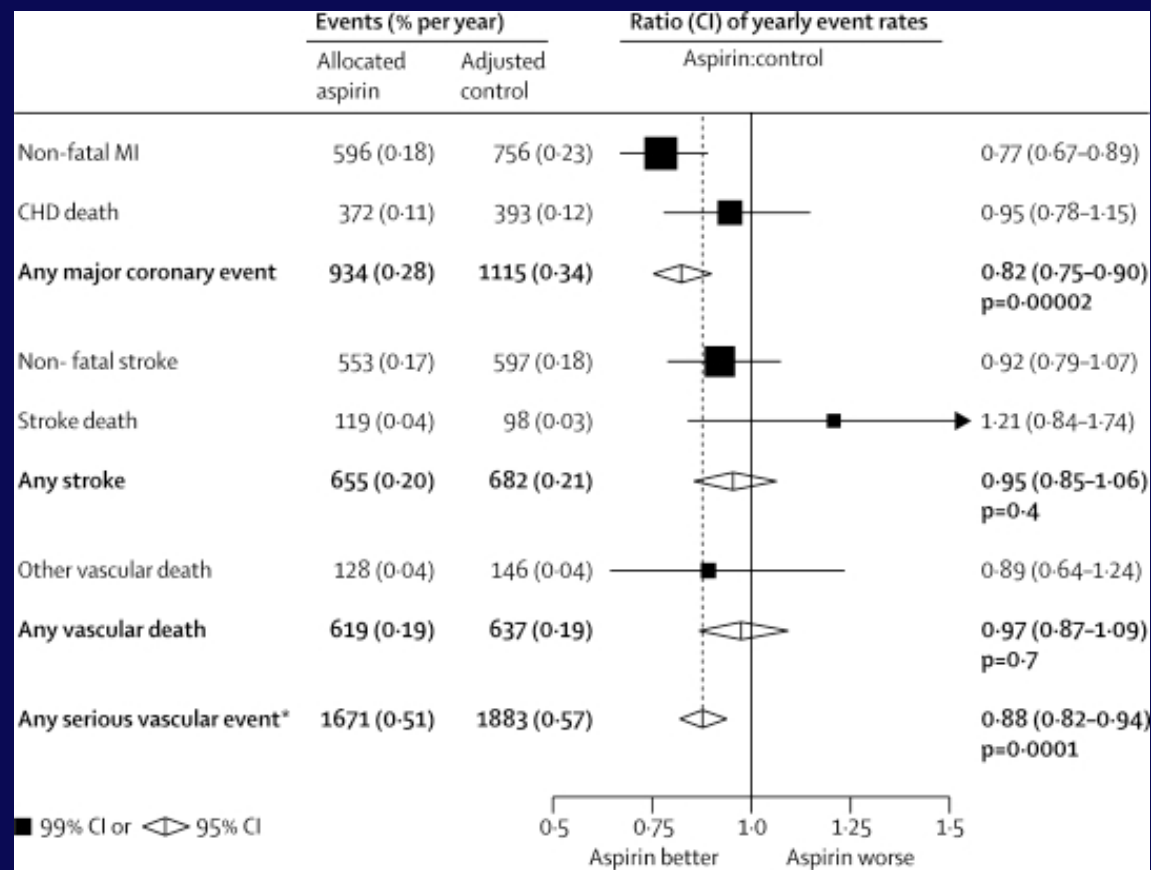
- Antithrombotic Trialists Collaboration
- Meta-analysis of these 6 primary trials
- 95,000 pts (f/u 4-6 yrs)

Lancet 2009;373:1849-1860

ASA: Primary Prevention Benefits

- 12% relative reduction in vascular events
--0.51% vs. 0.57% per year, $p=0.0001$
- Due primarily to a 23% relative reduction in non-fatal myocardial infarction (35% in men)
--0.18% vs. 0.23% per year, $p<0.0001$





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- Do these benefits outweigh risks by an appropriate margin?

ASA:Primary Prevention

- No significant reduction in vascular or total mortality

ASA: Primary Prevention

- No significant net effect on CVA
--0.20% vs. 0.21% per year, $p=0.4$
- Hemorrhagic CVA: 116 vs 89
- Ischemic CVA: 317 vs 367
- Unknown CVA: 222 vs 226
- ~80 of all CVA's non-hemorrhagic

ASA:Primary Prevention

- ASA increased major GI bleed (bleed causing death or transfusion)
--0.10% vs. 0.07% per/year, $p < 0.0001$
- Major bleeding events in men--288
- Myocardial infarction in men--1,023

ASA: Primary Prevention

- Absolute reduction in MI: 0.06%-yr
- Absolute increase in Bleed 0.03%-yr
- Is ASA "Clinically Worthwhile" for primary prevention in men?

ASA:Primary Prevention

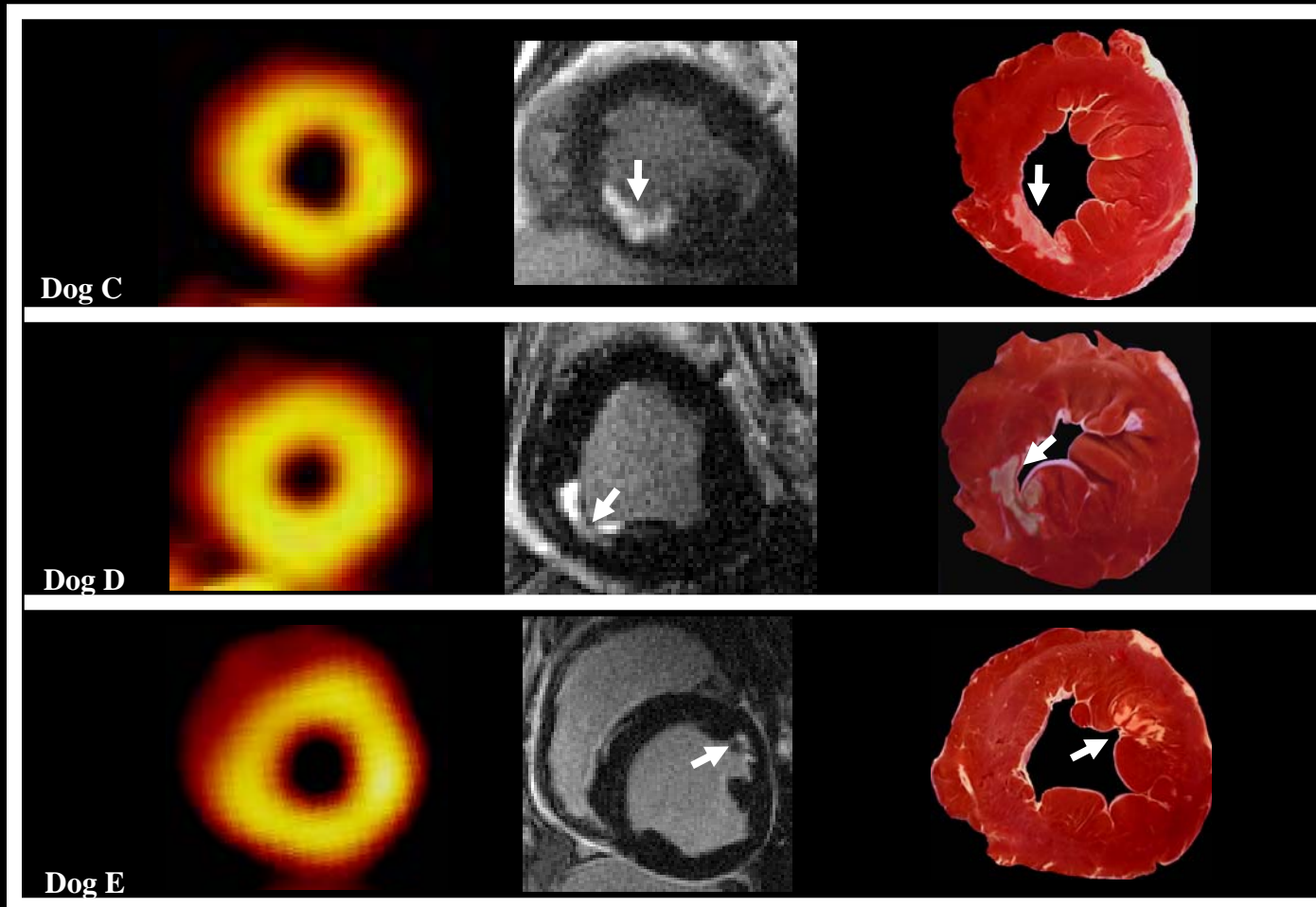
- Number to treat analysis
- Need to treat ~165 men with ASA for 10 yrs to prevent 1 MI

ASA:Primary Prevention

- ~40 million men 45-75 in US
- ~240,000 MI
- ~120,000 Bleeding events

ASA: Primary Prevention

- Is it "clinically worthwhile"?
- Is a GI bleed equivalent to a MI?

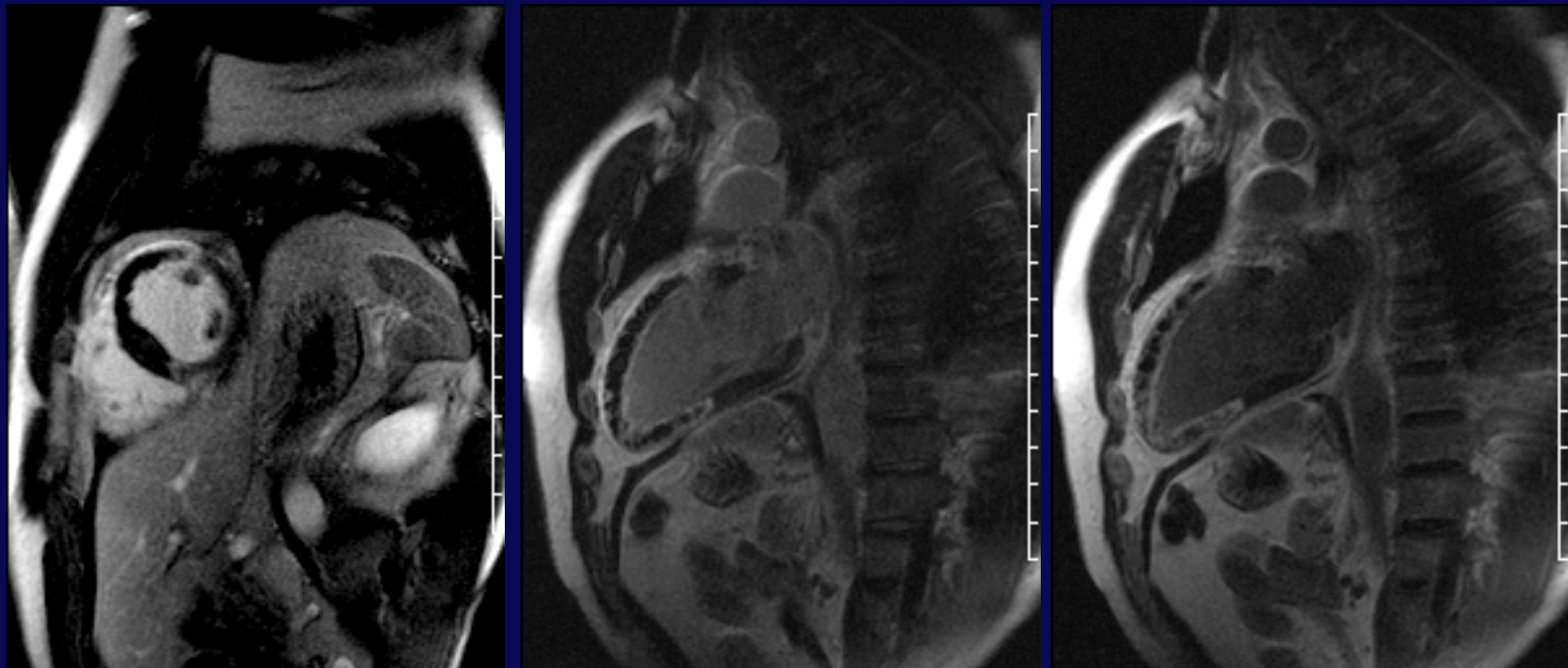


SPECT
No infarct

CMR
infarct

HISTOLOGY
infarct

Case LC



ASA: Primary Prevention Case LC

- Class 2--3 CHF, has an ICD
- Could no longer be a firefighter
- Depressed, "not the same"

Case LC 2

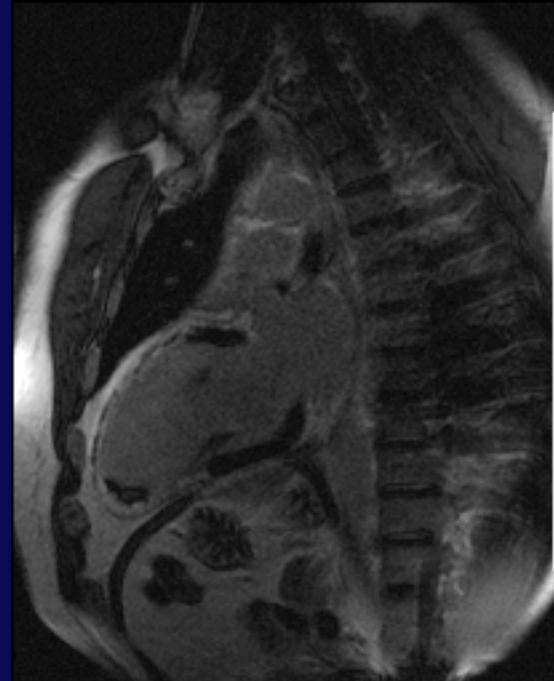
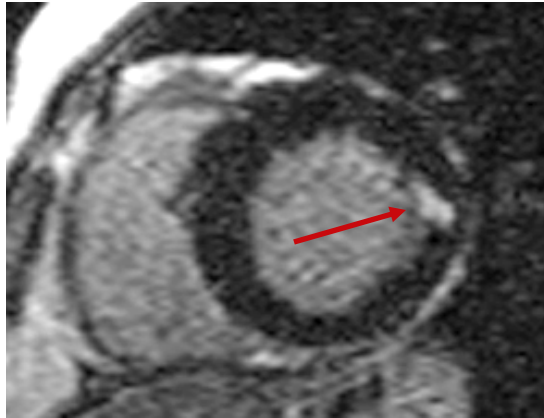


Figure 1: Patient Examples

A)



B)

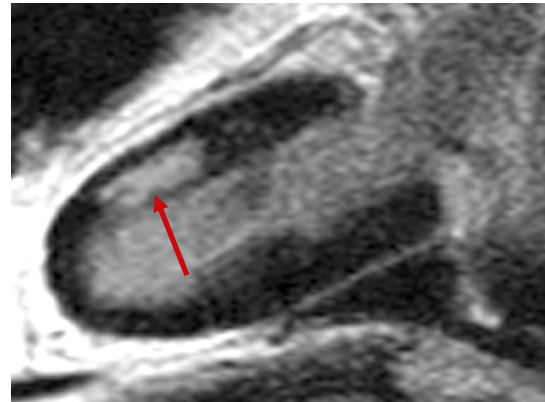
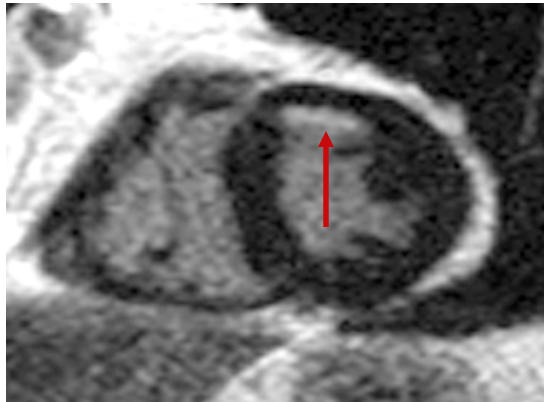
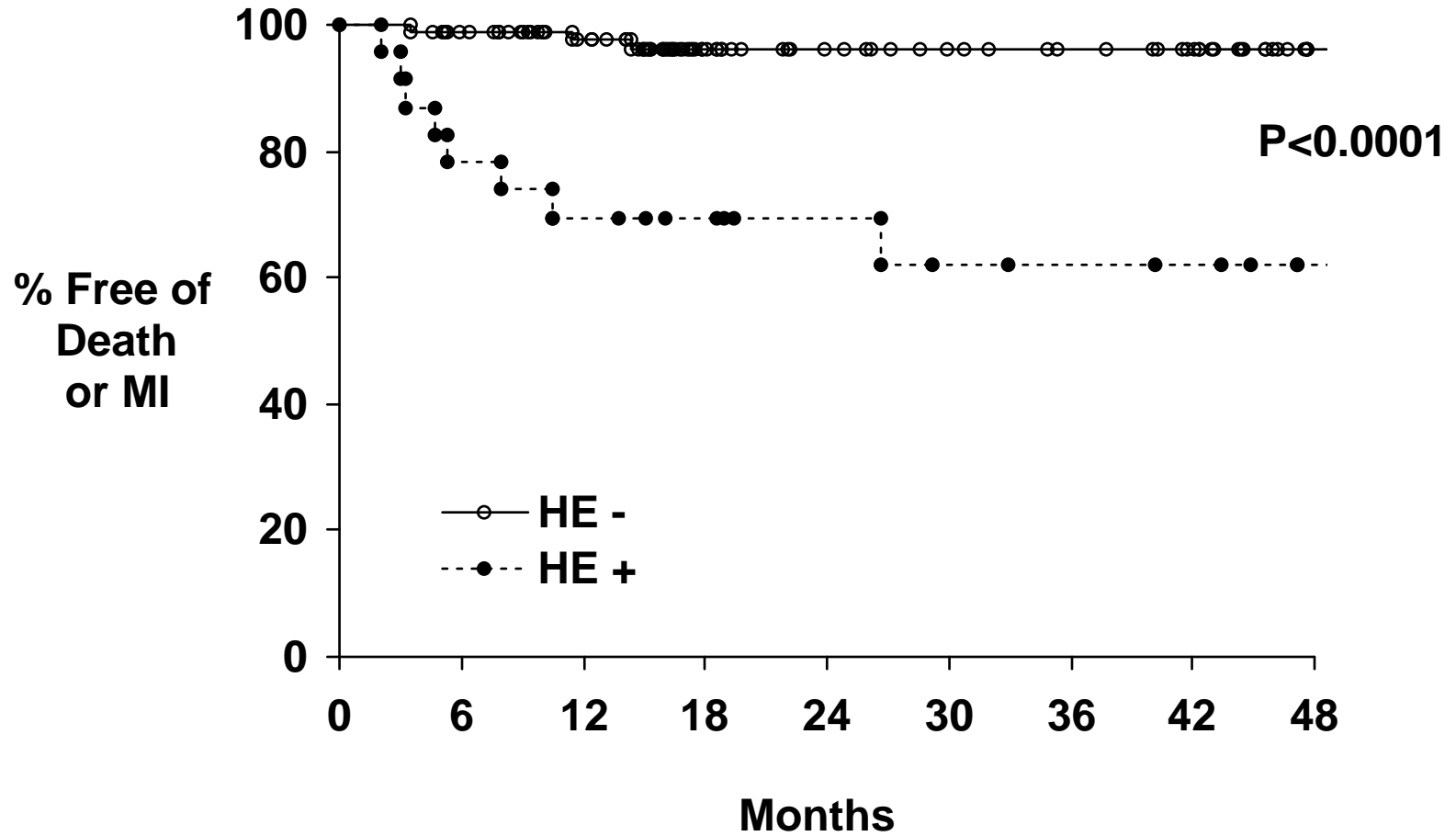


Figure 2

Time to Death/MI According to HE In Patients with Diabetes



ASA: Primary Prevention

Would you give ASA to...?

- 43 y.o. male cardiologist
- 5' 10", 175 lbs
- Asymptomatic, good functional capacity, does not exercise as much as he should, and he needs to "learn how to be more useful" around the house

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Would you give ASA to...?

- No major Cardiac risk factors
- However, he does have several significant non-traditional CRF

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Would you give ASA to...?

1. He decided to buy a house simultaneous with the decision by Washington that reimbursement for CV services will decrease by 10--40% in 2010.

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Would you give ASA to...?

2. He is a 1988 graduate of Notre Dame (the last year they won a National Championship) and a die-hard fan of the football team

13 long years of football irrelevance!!!



1997-2001

2002-2004



2005-2009

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Would you give ASA to...?

3. At Thanksgiving dinner his 10 yr old daughter told him she was old-enough to start dating now.