

**891 New Insights: Acute Coronary Syndromes**

Wednesday, April 1, 1998, 2:00 p.m.-3:30 p.m.  
Georgia World Congress Center, Room 364W

2:00

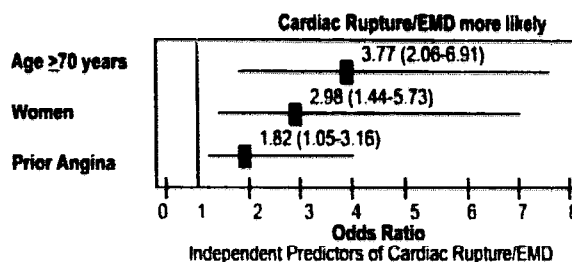
**891-1 The Association Between Cardiac Rupture and Early Mortality Among Women With Myocardial Infarction Treated With Thrombolytics**

Richard C. Becker, Sumita D. Paul, Frederick A. Spencer, Steven P. Ball, Elliott M. Antman. For the TIMI 9 Investigators. University of Massachusetts Medical School, Worcester, MA, USA

**Backgrounds:** Several groups including our own have reported higher mortality rates for women experiencing acute MI. The mechanism has not been elucidated.

**Methods:** In the complete TIMI 9 (A+B) cohort, 3758 patients with MI received thrombolytic therapy, aspirin, and either heparin or hirudin.

**Results:** A total of 236 patients (6.2%) died within the first 30 days; 65 (27.5%) from cardiac rupture/EMD. Independent predictors of rupture/EMD are shown (odds ratio, 95% CI):



By multivariable analysis, age ≥ 70 years (3.68; 2.53, 5.35), prior MI (2.14; 1.45, 3.17) and admission heart rate ≥ 100 BPM (3.08; 2.02, 4.70) but not female sex (1.44; 0.91, 2.27) were independently associated with non rupture/EMD-related mortality.

**Conclusion:** Cardiac rupture, as a cause for early death, is more common among women than men and may provide a mechanistic explanation for prior observations. The predisposition to cardiac rupture in women receiving thrombolytic therapy requires further investigation.

3:15

**890-6 Angiographic Follow-up Results of Stent Versus Atherectomy Randomized Trial (START)**

E. Tsuchikane, S. Sumitsuji, T. Nakamura, N. Awata, T. Kobayashi. Osaka Medical Center for Cancer and Cardiovascular Diseases, Osaka, Japan

START aimed to compare angiographic outcome and chronic vessel response assessed by IVUS between primary stenting and optimal directional coronary atherectomy (DCA). One hundred twenty-two lesions suitable for either stenting (Palmaz-Schatz) or DCA were randomly assigned to a stent group (62 lesions) or a DCA group (60 lesions). Single or multiple Palmaz-Schatz stents were implanted with high pressure post-dilatation in the stent group. Aggressive debulking was performed in the DCA group using IVUS. Serial quantitative coronary angiography (QCA) and intravascular ultrasound were performed at pre-, post-procedure and the 3 month and 6 month follow-up (Fu).

**Results:** One patient in the DCA group rejected Fu study and one patient of the stent group with poor left ventricular function suddenly died just before the 3 month follow-up. Other patients have already undergone the 3 month (3M) Fu angiography.

	Stent	DCA	p value
Reference diameter (mm)	3.23 ± 0.44	3.30 ± 0.38	NS
Post MLD (mm)	2.79 ± 0.39	2.90 ± 0.38	NS
Post % diameter stenosis (%)	14.8 ± 10.0	12.9 ± 8.1	NS
3M Fu MLD (mm)	1.95 ± 0.65	2.33 ± 0.63	0.0015
3M Fu % diameter stenosis (%)	38.0 ± 17.7	27.9 ± 16.0	0.0014
Acute gain (mm)	1.79 ± 0.49	1.87 ± 0.45	NS
Late loss (mm)	0.85 ± 0.63	0.57 ± 0.53	0.010
Loss index	0.49 ± 0.39	0.31 ± 0.34	0.009
Restenosis rate (%)	23.0	8.5	0.03

(MLD = minimal lumen diameter)

**Conclusion:** Aggressive debulking by DCA exhibits no less acute gain and a significantly larger MLD and lower restenosis rate at 3Mfu than primary stenting. Final Fu results will soon be available.

2:15

**891-2 Plaque Erosion is a Major Substrate for Coronary Thrombosis in Acute Myocardial Infarction**

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**Background:** Plaque rupture has long been recognized as the most important cause of acute coronary thrombosis. Recently, erosion of an intact fibrous cap has been shown to be an important substrate for coronary thrombosis in sudden coronary death. The frequency of plaque erosion in cases of acute myocardial infarction (AMI) is unknown.

**Methods:** Hearts from 298 consecutive patients dying within one month after a clinical diagnosis of AMI, established by ECG changes and enzyme elevation and not treated by thrombolysis, were studied. Location and histologic type of coronary thrombosis, distribution of myocardial infarct, and presence of ventricular rupture were determined pathologically. There were 189 men (66 ± 11 years) and 109 women (74 ± 8 years).

**Results:** Acute coronary thrombi were found in 291 hearts (98% of total), 74 of which (25%) were erosions. Erosions were relatively uncommon in men (34/183, 19%) compared to women (40/105, 38%, p = 0.0004). Healed infarcts were present in 37% of men vs. 22% of women (p = 0.01) and heart rupture more common in women (22% vs. 11%, p = 0.01). There was no difference in distribution of infarct, location of thrombus, percent luminal narrowing at site of thrombus, or incidence of heart rupture between cases of plaque rupture and plaque erosion.

**Conclusion:** Plaque erosion is an important substrate for coronary thrombosis in women dying of AMI.

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