

CORONARY ANGIOPLASTY IN THE ELDERLY PATIENT: SHORT AND LONGTERM RESULTS.

Russell Raymond, Conrad Simpfendorfer, Anita Zeiler Arnold, Charles T. Molta, Mark Baretella, Irving Franco, Patrick L. Whitlow, The Cleveland Clinic Foundation, Cleveland, Ohio.

Coronary angioplasty (PTCA) is being attempted in an increasing number of elderly patients (pts). To define the safety and longterm outcome of PTCA in the elderly (>70 years old), we reviewed the initial and longterm results of 737 patients (pts) who underwent this procedure between January 1, 1981 and December 31, 1988 (305 females, 432 males).

Results: Mean age of the study group was 74.5 years (range 70-84 yrs). Previous coronary artery bypass graft surgery (CABG) or PTCA had been performed in 11.5% and 4% of pts respectively. Left ventricular (LV) function was normal to mildly depressed in 649 (88%). PTCA angiographic success rate was 91% overall. The procedure was accompanied by a low rate of myocardial infarction (3%), emergency CABG (0.9%), acute occlusion (2.5%) and death (0.4%). All three deaths involved acute occlusion syndrome and resultant emergency CABG. Significantly, there were no cerebrovascular accidents seen. Mean follow-up at 39.5 ± 20 months (99.6% complete) revealed a 2.0% myocardial infarction rate, 6.4% CABG rate, and 3.4% death rate.

In conclusion, these results demonstrate very favorable short and longterm efficacy of PTCA in a large experience with elderly patients. Further studies are needed to assess the efficacy of the same procedure in the very elderly (>80 years old), as well in those with more severely compromised LV function.

THE EFFECT OF PHYSIOLOGIC VARIABLES ON CORONARY FLOW RESERVE. K. Randy Wagon, Brendan Foley, Robert J. Chisholm and Paul W. Armstrong, University of Toronto, Toronto, Canada.

To assess the effect of variations in heart rate (HR) and blood pressure (BP) on coronary flow reserve (CFR), we measured the CFR of a normal coronary artery in two groups of patients. Group A (N=10) underwent atrial pacing to increase the baseline HR by increments of 10 bpm, with CFR measured at each stage. In Group B (N=8) patients CFR was measured at the baseline mean arterial pressure (MAP) and during phenylephrine infusion to elevate MAP by increments of 5-20 mmHg and 20-40 mmHg; HR was held constant with atrial pacing. CFR was measured using the intracoronary Doppler technique as the ratio of peak vasodilated flow velocity (PCFV) following intracoronary papaverine to resting flow velocity (RCFV).

Results: all values are shown as mean (SEM).

Group A	Heart Rate (bpm)			
	70	80	90	100
RCFV	6.5(1.1)	7.4(1.4)	7.8(1.6)	9.7(1.9)
PCFV	24.1(3.7)	23.5(3.6)	22.5(4.1)	25.3(4.1)
CFR	3.8(0.2)	3.4(0.2)*	3.1(0.2)*	2.9(0.2)*

Group B	Mean Arterial Pressure (mmHg)		
	97(4)	110(4)	125(4)
RCFV	7.2(0.8)	7.5(0.9)	8.5(1.1)
PCFV	27.4(3.7)	30.7(3.8)	30.8(4.1)
CFR	3.8(0.3)	4.2(0.4)*	3.6(0.2)

*p<0.05 (ANOVA)

Conclusions: Increased heart rate causes a proportional decrease in CFR due to increased RCFV; in contrast the effect of increased BP on CFR is a complex interplay of increases in RCFV and PCFV at different arterial pressures, causing an initial increase and subsequent decrease in CFR.

Monday, March 4, 1991

Poster Displayed: 2:00PM-5:00PM

Author Present: 2:00PM-3:00PM

Hall F, West Concourse

Stratification of Infarct Survivors

Use of Clinical Variables to Identify Patients With Myocardial Infarction Suitable for Hospital Discharge on the Third Day.

Richard W Parsons PhD, Konrad D Jamrozik MB DPhil, Michael S T Hobbs MB DPhil, Peter L Thompson MD FACCC*. Unit of Clinical Epidemiology, University of Western Australia and Department of Cardiovascular Medicine, Sir Charles Gairdner Hospital, Perth, Australia.

Since it is known that shorter hospital stays are feasible for some patients with acute myocardial infarction (AMI), we used routinely collected clinical variables to identify a low risk group suitable for discharge on day 3. Of 2524 patients with AMI, 2280 were alive at 3 days; there were 176 (7.7%) deaths in the subsequent month. On logistic regression analysis the clinical variables in the first 3 days predictive of death in 4-28 days were previous AMI (relative risk {RR} 1.7) maximum pulse rate 100-120/min (RR 1.7), or >120 (RR 4.2), bundle branch block (RR 2.9), pre-hospital cardiac arrest (RR 3.1), female (RR 1.2), age >60 (RR 1.8), and pre-infarction diuretics (RR 2.4), or beta blockers (RR 0.7). An index based on these variables identified quartiles with risk of death in days 4-28 ranging from 1% (6/570) in the lowest quartile to 23% (129/564) in the highest. When the index was tested on the 593 patients treated in 1988, the observed death rates ranged from 1% (2/202) to 20% (25/127).

We conclude that clinical variables collected in the first 3 days post-AMI can identify groups of patients at low risk of death without need for complex investigations. These patients may be suitable for discharge on the third hospital day.

AGE, NOT SEX, PREDICTS MORTALITY AND USE OF INVASIVE PROCEDURES AFTER MYOCARDIAL INFARCTION.

Harlan M. Krumholz, Michael S. Lauer, Richard C. Pasternak. Harvard-Thorndike Laboratory, Beth Israel Hospital, Boston, MA

It has been suggested that women with acute myocardial infarction (AMI) have a higher mortality rate than men and that they are less likely to undergo invasive diagnostic evaluation. In order to evaluate differences in mortality and diagnostic strategies between men and women who present with AMI we reviewed the Beth Israel Hospital computer data base "Clinquery" to identify 1248 patients (685 men, 563 women) with a principal diagnosis of AMI and with a CKMB fraction > 4%. Men were significantly younger than women (66.7 vs 75.3 years, p < 0.05), had a lower hospital mortality rate than women (11% vs. 16%; odds ratio (OR) 0.69, 95% confidence interval (CI) 0.50-0.96) and were more likely to have cardiac catheterization (50% vs. 34%; OR 2.0, 95% CI 1.50-2.53). However, when stratified by age, there was no association between sex and mortality (Mantel-Haenszel OR 0.94, 95% C.I. 0.69-1.30) or between sex and cardiac catheterization (Mantel-Haenszel OR 1.11, 95% CI 0.85-1.45). We conclude that when patients with AMI are stratified by age there is no difference between men and women in mortality or in likelihood of undergoing cardiac catheterization.