

**Results:** From May 01 to June 02, 483 Pts were included, age  $69 \pm 11$  y, unstable angina 41%, 3 vessel disease 42%, distal LMCA 58%, EF  $56 \pm 16\%$ . They were classified as good candidates for surgery in 62%, poor in 33% and contra-indicated in 5%. Treatment was CABG in 48%, PCI in 40% and medical in 12%. Main characteristics were similar in the CABG and PCI groups except for an excess of poor candidates in the PCI group compared to surgery (45 vs 14%,  $p < 0.001$ ) and more RCA lesions in the CABG group (67 vs 43%,  $p < 0.001$ ). In the PCI group, Gp2b3a inhibitors were used in 21% and intra-aortic balloon pump in 9%. All Pts were stented on the LMCA ( $1.1 \pm 0.4$  stents, diameter  $3.8 \pm 0.3$  mm, length  $11.8 \pm 3.5$  mm). Before stenting, rotational atherectomy was used in 7%, cutting balloon in 4% and balloon predilatation in 55% of cases. Angiographic success was obtained in all cases. LMCA MLD increased from  $1.4 \pm 0.7$  to  $3.7 \pm 0.6$  mm. Stay was  $15 \pm 21$  days in the CABG group vs  $5 \pm 3$  in the PCI group ( $p < 0.001$ ). Mortality rate was as follows (preliminary):

**Conclusion:** Despite unfavorable characteristics, PCI for LMCA is associated with excellent 1-month and promising mid-term outcome compared to CABG. Complete 6-month follow-up will be presented at the meeting.

	1 month	6 month	12 month
PCI (n=183/102/31)	0.5%	3.6%	4.1%
CABG (n=142/83/70)	5.5%*	6.4%	7.2%
Medical (n=48/30/30)	14.0%*	22.0%*	22.0%

\*  $p < 0.05$

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### Can Tapered-Tip Guidewires Improve the Success Rate of Percutaneous Coronary Intervention in Chronic Total Occlusion?

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**Backgrounds:** Percutaneous coronary intervention (PCI) for chronic total occlusion (CTO) is still technically challenging. The use of tapered-tip guidewires (Cross-It<sup>®</sup> or Conquest<sup>®</sup>), which were specifically designed for CTO lesions, may improve the success rate of PCI in these lesions.

**Objectives and Methods:** In order to know whether the introduction of tapered-tip guidewires could improve the success rate, we retrospectively compared the results of PCI in CTO lesions in 182 patients during Phase I period (between April 1997 and December 1999) with those in 80 patients during Phase II period (between January and August 2001).

**Results:**

	Phase I	Phase II	<i>p</i>
No. of patients	182	80	
Male gender	78%	83%	NS
Age	65 +/- 11	67 +/- 8	NS
Triple vessel disease	21%	20%	NS
LVEF	49 +/- 18%	49 +/- 13%	NS
Duration of occlusion (months)	15 +/- 10	17 +/- 28	NS
Length of occlusion (mm)	17 +/- 5	18 +/- 6	NS
Tapered-type occlusion	33%	35%	NS
Contra-lateral angiography	20%	23%	NS
Use of hydrophilic guidewires	8%	6%	NS
Use of tapered-tip guidewires	0	60%	<0.001

The overall success rate was improved from 67% in Phase I to 81% in Phase II ( $p=0.019$ ).

**Conclusions:** The use of tapered-tip guidewires can improve the success rate of PCI in CTO lesions.

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### Adjunctive Porous Filter Protection From Distal Embolization in Primary Percutaneous Intervention for Acute Myocardial Infarction

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**Background:** Effective reperfusion after primary percutaneous coronary intervention (PCI) in patients with acute myocardial infarction may be affected by distal embolization. We tested safety and feasibility of the adjunctive use of "Filter-wire Ex" (FW), a non-occluding porous filter device aimed to prevent distal embolism, during primary PCI on native coronary vessels.

**Methods:** Twenty-eight consecutive patients admitted < 6 hours after acute myocardial infarction onset were treated by primary PCI in association with FW to prevent distal embolism. Clinical outcome of these patients (group FW) was compared to 28 patients with acute myocardial infarction treated by primary PCI alone (group PCI) matched for age, sex and infarct location. Patients with cardiogenic shock, left main coronary artery disease, pre-PCI TIMI grade flow >1 in the infarct vessel or infarct vessel size < 3.0 mm were excluded from the study.

**Results:** Successful positioning of FW device was obtained in 26 out of 28 patients. All positioned FW were safely retrieved. Visible emboli in the FW basket were recovered in 8 patients (thrombus in 6 patients, plaque debris in 2 patients). Coronary dissections due to FW device positioning or retrieval were not observed. Use of FW was moderately time consuming (arterial puncture-to-vessel recanalization time in FW and PCI groups:  $24 \pm 5$  vs  $20 \pm 5$  min,  $p < 0.05$ ). A final Thrombolysis in Myocardial Infarction (TIMI) flow grade < 3 and persistent ST-segment elevation at the end of PCI were less frequent in the FW with respect to the PCI group (final TIMI flow grade: 4% vs 21%,  $p$  N.S.; persistent ST-segment elevation: 7% vs 36%,  $p < 0.05$ ). Moreover, patients in the FW group showed significantly lower peak creatin kinase-MB release ( $212 \pm 181$  U/l vs  $348 \pm 216$  U/l,  $p < 0.02$ ) as well as greater improvement in left ventricular 2D-echo regional wall motion index at 4 weeks ( $-0.40 \pm 0.25$  vs  $-0.21 \pm 0.26$ ,  $p < 0.01$ ).

**Conclusion:** This is the first clinical study showing that the adjunctive use of the distal embolism protection device FW during primary PCI is safe and technically feasible, even in native coronary arteries. In this clinical setting, FW seems able to improve effective reperfusion.

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### Gender-Based Differences in Long-Term Outcome Following Percutaneous Coronary Intervention

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**Background:** Early studies suggested that morbidity and mortality following percutaneous coronary intervention (PCI) were greater in women than men. However, in recent reports, gender-related differences in short-term outcome have decreased as outcomes among women have improved. We sought to evaluate the effect of gender on long-term mortality among a large cohort of patients undergoing PCI in the contemporary era.

**Methods:** Three hospitals in New York City contributed prospectively defined data elements on 4284 consecutive patients undergoing PCI in 1998-9. All-cause mortality at a mean follow-up of 3 years was the primary endpoint. **Results:** Of the 4284 patients, 1,331 (31%) were female. Females were significantly older than males (mean age 67 vs. 62 years,  $P < 0.001$ ) and less often white (72% vs. 80%,  $P < 0.001$ ). Hypertension (78% vs. 66%,  $P < 0.001$ ) and diabetes (36% vs. 22%,  $P < 0.001$ ) were more prevalent in females. Prior cardiac surgery (14% vs. 19%,  $P = 0.001$ ) and previous myocardial infarction (MI) (33% vs. 36%,  $P = 0.08$ ) were less common among women. Presentation with unstable angina was more frequent in women (45% vs. 41%,  $P = 0.034$ ) whereas presentation with acute MI did not differ by gender. Congestive heart failure developed more commonly among women (7.1% vs. 4.1%,  $P < 0.001$ ). The extent of coronary disease (one-, two- or three-vessel disease) did not differ between females and males. Mean ejection fraction was 52% in women and 50% in men ( $P < 0.001$ ). Stents were placed in 77% of both groups. Angiographic success was 97% for both women and men. In-hospital adverse outcomes including death, post-PCI MI, emergency bypass surgery, abrupt closure and stent thrombosis were uncommon and not different between groups. Mortality at 3 years was 10% for men and 8.9% for women ( $P = 0.197$ ). However, using Cox proportional hazards analysis to adjust for co-morbidities and possible confounders, female gender was associated with a significant independent reduction in the hazard of long-term mortality (Hazard Ratio, 0.775, 95% Confidence Interval, 0.620-0.969,  $P = 0.025$ ). **Conclusion:** Despite more high-risk characteristics, female gender confers a long-term survival advantage following PCI.

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### Predictors of New Renal Dialysis After Percutaneous Coronary Intervention

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**Background:** Acute renal failure requiring hemodialysis (HD) is an infrequent but serious complication of percutaneous coronary intervention (PCI). The risk factors for HD have not been well elucidated in a large population.

**Methods:** We reviewed 31,397 PCI procedures in the William Beaumont Hospital PCI database from May 1993 to May 2002. Patients undergoing CABG surgery were excluded ( $n=338$ ). We assessed the incidence and independent predictors of acute renal failure requiring HD.

**Results:** The incidence of HD was 0.3%. Characteristics predicting renal failure requiring HD are shown in the table. Interestingly, contrast volume over 150cc was not predictive of HD.

**Conclusions:** Renal failure requiring HD is infrequent with an incidence of 0.3%. Preexisting renal dysfunction remains the strongest predictor of new hemodialysis.

Predictors of Hemodialysis

	P value	Odds Ratio	95% CI
Creatinine Clearance <75ml/min	<0.0009	29.1	4.00-212
Unplanned IAB P	<0.0001	5.54	3.01-10.2
CHF	<0.0001	5.31	2.93-9.63
Urgent PCI	0.0009	4.90	1.92-12.5
Diabetes	<0.0001	4.75	2.58-8.76
Peripheral Vascular Disease	0.026	1.93	1.08-3.44