Adverse Outcomes in Women Undergoing Percutaneous Coronary Intervention


Background: Although cardiovascular disease is the most common cause of death in women in the United States, females are generally underrepresented in clinical trials. This study was designed to investigate whether there are differences in baseline risk factors between genders that influence outcomes after percutaneous coronary intervention (PCI).

Methods: We analyzed 20,870 patients from the William Beaumont Hospital Interventional Database. We compared baseline characteristics and in-hospital outcomes between women (n=16745, 32%) and men (n=14125, 68%).

Results: Women were older (69 ± 11 vs 63 ± 11, p < 0.0001) and had a higher prevalence of risk factors including diabetes (32% vs 25%, p < 0.0001), hypertension (71% vs 61%, p < 0.0001), though not hypercholesterolemia (62.7% vs 64.5%, p = 0.012). Women also had a higher prevalence of congestive heart failure (18% vs 11%, p < 0.0001), chronic renal failure (4.3% vs 3.5%, p = 0.0076), stroke (11% vs 7.5%, p < 0.0001) and peripheral vascular disease (17% vs 14%, p < 0.0001). Importantly women were less likely to have a prior history of angioplasty (35% vs 38%, p < 0.0001) and bypass surgery (16% vs 22%, p < 0.0001). Women were more likely to be treated with balloon angioplasty alone (40% vs 36%, p < 0.0001) whereas men were more likely to undergo stenting (53% vs 56%, p = 0.0043). Women suffered more in-hospital post-procedural complications including pulmonary edema (0.4% vs 0.2%, p = 0.02), renal failure (2.1% vs 1.6%, p = 0.0073), reoclusion (0.5% vs 0.2%, p = 0.0012), retroperitoneal bleed (0.6% vs 0.1%, p < 0.0001), strokes (0.6% vs 0.3%, p = 0.012) and death (2.6% vs 1.3%, p < 0.0001).

Conclusions: Women undergoing PCI have more high-risk cardiovascular characteristics and have a higher incidence of in-hospital adverse outcomes compared to men.