Comparison of long-term outcomes between men and women after percutaneous coronary intervention


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Background: Over the past decade, several studies have displayed conflicting results regarding worst cardiovascular outcomes of women with obstructive coronary artery disease (CAD) compared with men.

Purpose: To assess the impact of gender on poor outcomes after percutaneous coronary intervention (PCI).

Methods: Consecutive men and women admitted for PCI between the 1st of January 2008 and the 31st of December were included and prospectively followed-up in this monocentric cohort study. All type of presentations and indications for PCI were considered. Risk factors and co-morbidities as well as angiographic results and procedures were collected at baseline. Major adverse cardiovascular and cerebrovascular events (MACCE) were collected through consultations, calls and death certificate until January 2019. Medical forms and documents regarding adverse events and causes of death were reviewed and adjudicated by two independent clinicians according to the standard definitions. The primary endpoint was all-cause mortality according to gender.

Results: A total of 3524 patients, including 2720 men (77.1%) and 804 women (22.8%), were followed-up for a median time of 7.0 years (IQ1: 5.4; IQ3: 7.2). The follow-up rate was 97.6%. Women were older at baseline (70 ± 13 vs. 64.6±12), smoked less often (18.9% vs. 30.4%) but suffered more frequently of hypertension (67.9% vs. 58.1%) and chronic kidney disease (42.6% vs. 22.7%) (Table 1). All-cause death occurred for 30.3% (n=1070) and MACCE for 40.9% (n=1443) of patients. In unadjusted analyses, women had a higher risk of all-cause mortality (35.3% vs 28.9%, HR=1.25, 95%CI[1.09-1.43], p=0.0015) and cardiovascular mortality ([61% vs. 57%], HR=1.31, 95%CI[1.10-1.56]) (figure 1 and 2) but there was no difference on occurrence of MACCE (HR=0.91, 95%CI[0.93-1.21]). After adjustment for baseline cardiovascular risk factors, presentation and severity of coronary disease, women and men shared a similar risk of mortality along time (adHR=0.91, 95%CI[0.79-1.05]) (figure 3).

Conclusion: In this long-term follow-up cohort, women had a higher risk of all-cause and cardiovascular mortality after PCI in unadjusted analyses. However, gender was not independently associated with mortality after adjustment for cardiovascular risk factors.

Table 1. Comparative baseline characteristics according to sex

![Table with data]

![Fig.1 Cumulative incidence of all-cause death according to gender](image1)

![Fig.2 Cumulative incidence of cardiovascular death according to gender](image2)


Fig.3 Forest plot of adjusted HR for all-cause mortality

![Fig.3 Forest plot](image3)