

## Interventions in Acute Coronary Syndrome: a gender/age-based epidemiologic study

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ACS (Acute Coronary Syndrome) may occur in both men and women, but with different symptoms, risk factors or types at presentation. This leads to different clinical and pharmacological management and to different health outcomes. Our aim was to find gender/age-differences in patients hospitalized for ACS during 2008 and to determine: population-based prevalence, in-hospital mortality, management of revascularization and non-revascularization, pharmacological treatment on discharge and adherence to it, potential cardiovascular risk factors and a survival analysis. The ULSS 16 population was 483,042 (232,899 men and 250,143 women) in 2008. We examined 1,204 ACS patients (760 men and 444 women), their sanitary demographics and hospital discharge forms. Therapy was determined utilizing hospital and territory drug distribution database. Methods used were overall the same of those of CINECA-study, but the gender and different age classes were considered.\*

The prevalence of ACS was 2.5 ‰ (3.26‰ for male patients and 0.92‰ for female patients). Of the ACS patients, 142 (11.8%) died in hospital. Those were prevalently women 15.8% vs. 9.5% (OR=0.6 95%CI 0.4-0.8). Thus, for further investigations a cohort of 1,062 ACS patients (688 male and 374 female patients) was considered. 40.12% of patients underwent a revascularization intervention and 48.1% were not revascularized. Male patients over 65 years old were significantly more likely to have a revascularization than female patients of the same age (age group: 65-79, OR=1.7 95%CI 1.2-2.5; age group  $\geq$ 80, OR=4.1 95%CI 2.2-7.6). An analysis of pharmacological treatments in the previous 12 months showed that 77% of women vs. 69% of men (OR=0.7 95%CI 0.5-0.9) had an antihypertensive medication and 17% of women vs. 8% of men were treated at least once with an antidepressant. This may be potentially indicative of higher rates of hypertension and depression among ACS women. There was no difference in drug utilization for diabetes (21% M and F) or for dyslipidemia treatment [37% M vs. 32% F, OR=1.3 95%CI 1.0-1.6]. Antiplatelet therapy six months after hospital discharge was analysed: 82% of the ACS population received at least one antiaggregant drug. The remaining 18% that did not receive such drugs were mostly females (OR=2.8 95% CI 2.1-3.8). Revascularized and non-revascularized patients' therapy: aspirin was used in 35% of the non-revascularized vs. 28% of the revascularized patients, mostly in non-revascularized female patients; thienopyridines were used in 8% of the non-revascularized vs. 5% of the revascularized patients. The latter ones were mostly females. Finally dual antiplatelete therapy was used in 61% of revascularized vs. 29% of non revascularized patients (mostly males). For the other non mentioned therapies male and female patients were equally treated. Regarding the adherence to therapy, male patients were in general more adherent to aspirin (92% M vs. 82% F, OR=2,4 95%CI 1.2-4.6). On the other hand, male and female patients were equally adherent to thienopyridines (87%M vs. 84%F, OR=1.3 95%CI 0.3-5.0) and to dual-antiplatelete therapy (76%M vs.74%F, OR=1.1 95%CI 0.7-1.8) . Hospital admission following an ACS event occurred more frequently in the male population than in the female counterpart. There was no sex-related difference in mortality rate after an ACS event. In general men were more revascularized than women. On discharge, the proportion of female patients not receiving any antiaggregant therapy was larger than that of males. Revascularized as compared to non-revascularized patients did not show major gender differences in therapy. However, in non-revascularized patients there was a difference between males and females in terms of antiaggregants use. Survival analysis showed a better prognosis in men. On the whole, both female and male ACS patients were adherent to therapy.

\*Osservatorio ARNO sui farmaci cardiovascolari, Rapporto 2012, Volume XVIII.