Gender differences in the decrease of in-hospital mortality in patients with acute myocardial infarction during the last 20 years in Switzerland


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Declaration of Interest

• AMIS Registry is financially supported by unrestricted grants from:
Background and Purpose

• Female heart attack patients are older, have a higher burden of risk factors and comorbidities, are less likely to receive evidence-based therapies and have higher mortality compared to men.
• Administrative data showed that mortality of heart attack patients considerably decreased worldwide between the 1970s and the beginning of the new millennium.
• This study aimed to assess temporal trends of in-hospital mortality in heart attack patients enrolled in the Swiss nationwide registry (AMIS Plus) over the last 20 years with regard to gender, age and in-hospital treatment.
Methods

• AMIS Plus prospectively collects clinical data on heart attack patients in the pre-admission, hospital and follow-up phases. Treating physicians or trained study nurses provide blinded data on each patient using standardized questionnaires.
• Study period: 1997 - 2016
• Participants: 83 Swiss hospitals (all types)
• Study population: Heart attack patients
  – ST-elevation myocardial infarction (STEMI)
  – Non-ST-elevation myocardial infarction (NSTEMI)
Results (1)

• 51,725 patients (STEMI: 30,398 and NSTEMI: 21,327)
  – Gender: 27% women
  – Mean age: 66y; STEMI ♀ 71y, ♂ 63y; NSTEMI ♀ 72y, ♂ 66y

• Therapies significantly changed for both gender
  – Use of percutaneous coronary intervention, antiplatelet agents and statins increased and the gender gap has been reduced
Results (2): Temporal trends in crude in-hospital mortality according to gender

**AMI patients <60 years mortality reduction per year**

- **STEMI**
  - Men: 1.8 to 0.7 (−5% per year)
  - Women: 1.0 to 0.6 (−3% per year)

- **NSTEMI**
  - Men: 1.1 to 0.4 (−5% per year)
  - Women: 0.7 to 0.2 (−6% per year)

**Not significant**
Conclusions

• During the last 20 years, in-hospital mortality of heart attack patients in Switzerland has halved.
• Although in-hospital mortality was consistently higher in women, overall age-adjusted mortality has decreased more prominently in women compared to men.
• However, in patients aged below 60 years a significant decrease in in-hospital mortality was observed in women but not in men.