Temporal Trends in Treatment of ST-Elevation Myocardial Infarction Among Men and Women in Switzerland from 1997 through 2010

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A Acute
M Myocardial
I   Infarction in
S Switzerland

Objective

Few representative data exist describing temporal trends in the presentation, treatment and outcomes of patients with ST-segment elevation myocardial infarction (STEMI)

Methods

AMIS Plus (*Acute Myocardial Infarction in Switzerland*) is a nationwide, prospective, multicenter study of acute coronary syndrome patients hospitalized in Switzerland.
Using the AMIS Plus data, patients admitted between 1997 and 2010 with a definite diagnosis of STEMI (clinical symptoms, ECG and/or elevated troponin levels according to the specific hospital cut-off for MI) were included. Immediate and discharge drugs as well as reperfusion therapies among men and women were analyzed using multivariate logistic regression.
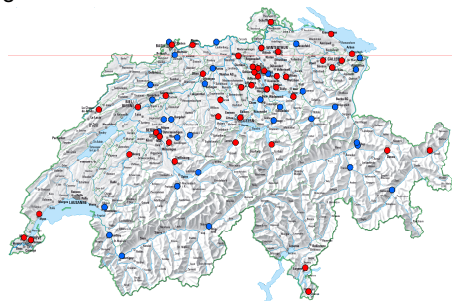
Population

20,363 STEMI patients from 77 hospitals: 5458 women and 14,905 men.

Results and Outcome

Baseline characteristics

|	Men (N=14,905)	Women (N=5458)	P value
Age, mean yrs (SD)	62.8 (13.0)	71.4 (12.6)	<0.001
Delay (h:min) median IQR	3:10 1:41, 8:10	4:00 2:02, 10:30	<0.001
Resuscitation (prior)	5.2%	6.3%	<0.001
Pain at admission	88.0%	85.0%	<0.001
Dyspnea at admission	24.6%	32.2%	<0.001
Atrial fibrillation	3.9%	5.6%	<0.001
Killip class >2	7.2%	9.6%	<0.001
Diabetes mellitus	17.3%	22.6%	<0.001
Hypertension	50.6%	64.9%	<0.001
Dyslipidemia	54.1%	50.3%	<0.001
Current smokers	46.3%	29.9%	<0.001
Obesity (BMI >30)	18.5%	18.9%	0.59
Charlson Index ≥2	18.2%	24.5%	<0.001

Early drug therapies
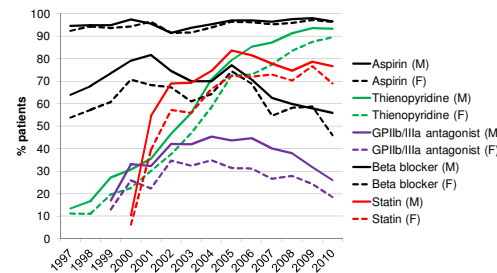
Discharge medication
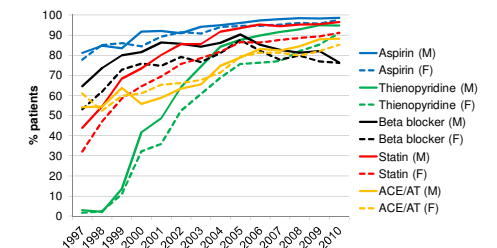
### Adjusted** OR for STEMI female patients (reference: male)
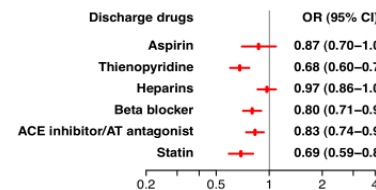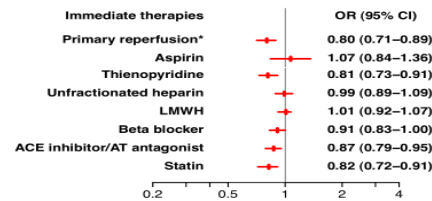
*Primary reperfusion – lysis or primary percutaneous coronary intervention (PCI)
**Adjusted for age, Killip class >2, risk factors (smoking, dyslipidemia, hypertension, diabetes) and comorbidities (Charlson weighted index ≥2) and admission year

Independent predictors for in-hospital mortality

	OR	95% CI	P value
Female gender	1.10	0.90-1.35	0.37
Age (per year)	1.07	1.06-1.08	<0.001
Killip class >2	7.46	5.97-9.31	<0.001
Diabetes mellitus	1.16	0.88-1.41	0.36
Hypertension	0.80	0.65-0.98	0.035
Dyslipidemia	0.87	0.72-1.06	0.18
Smoking	1.29	1.03-1.63	0.028
Charlson Index ≥2	1.90	1.54-2.35	<0.001
Admission year	0.98	0.94-1.02	0.30

Reperfusion therapies
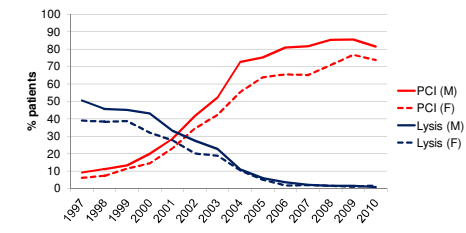
Complications and in-hospital mortality
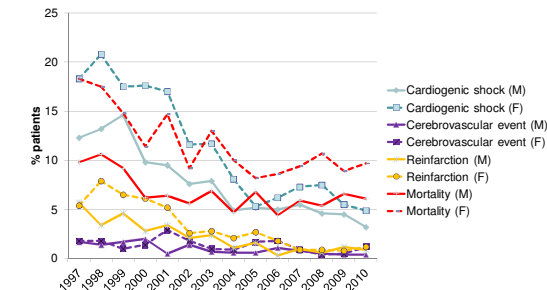
reduced by 5% per year in men (OR 0.95; 95%CI 0.94-0.97; P<0.001)
reduced by 6% per year in women (OR 0.94; 95%CI 0.92-0.97; P<0.001)

Summary of conclusions

- Substantial changes have occurred in treatment and outcome of STEMI among both men and women in Switzerland over the last 14 years.
- Trends developed for the most part in parallel across the two groups, although ongoing disparities in treatment remain.
- However, disparities in treatment were not associated with worse risk-adjusted in-hospital outcomes which suggests that the gender gap in care may be closing in Switzerland.

There are no conflicts of interest