Abstract: **P546**

**The plateauing of changes in management and outcomes of ST-segment elevation myocardial infarction - long term data from Estonia**

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**Background**
Continuous monitoring of the trends in management and outcomes of ST-segment elevation myocardial infarction (STEMI) plays a crucial role in tackling high mortality from cardiovascular disease.

**Purpose**
The aim was to explore trends in short- and long-term mortality rates after hospitalization for STEMI over the period 2001–2014 in Estonian hospitals while considering changes in baseline characteristics and treatment.

**Methods**
We conducted a nationwide cohort study, which combined data from two sources. For years 2001, 2007 and 2011 the data were retrieved manually from patient records; from 2012 onwards Estonian Myocardial Infarction Registry was used. For follow-up information the patient-level data were linked to the Population Registry.

**Results**
The median age of STEMI patients ranged from 69.0 to 70.1 years and the proportion of women from 38.2% to 41.9%. The in-hospital use of guideline-recommended drugs has increased substantially over the studied period. For example, the use of dual antiplatelet therapy has increased from 10% to almost 80% and the use of statins from 16% to 80%. The utilization rate of all five guideline-recommended drugs (aspirin, a P2Y12-inhibitor, a beta-blocker, an ACEi and a statin) had reached a plateau around 80% by year 2012 and has remained stable over the last three years studied.

The overall rate of reperfusion therapy has increased from 43% in 2001 to 58% in 2014. In accordance with local and international recommendations, the proportion of fibrinolysis has decreased, which has been substituted by the increased use of primary percutaneous coronary intervention (PCI). The proportion of patients who receive fibrinolysis appears to have stabilized at around 14%.

Both short- and long-term mortality after STEMI have decreased over the studied period in Estonia. Unadjusted in-hospital mortality fell from 17.9% in 2001 to 10.5% in 2014 and 1-year mortality from 29.9% to 20.8%, with no significant decrease over the last three years studied.

**Conclusion**
The analysis of STEMI data over the period 2001–2014 showed important increases in treatment with reperfusion and guideline-recommended cardiovascular drugs, which could be attributed to dissemination of treatment guidelines and reorganization of hospital network responsible for STEMI management in Estonia.
Simultaneously, we observed a continuous reduction in mortality over the same period. The changes in the treatment and outcomes were more pronounced in 2001–2011, with apparent stabilization over the last three years studied (2012–2014). This plateauing of mortality rates at a higher level than is currently seen in other developed countries indicates the need for further optimization of STEMI management in Estonia.