

Impact of first medical contact to revascularisation time on long-term clinical outcomes in ST-segment elevation myocardial infarction patients

Andreas Schweighauser

Several factors may impact clinical outcomes after ST-segment elevation myocardial infarction (STEMI). Time delays are one factor that can be modified by healthcare providers. We undertook a formal analysis of the system-dependent component of our local STEMI network (Evalfast).

We sought to identify predictors for a prolonged delay from first medical contact to revascularisation (FMC-R) and to assess impact of a prolonged treatment delay on 3-year clinical outcome for patients with STEMI. Patients were divided into two groups: FMC-R interval <90 minutes (short) and FMC-R delay of ≥ 90 minutes (long).

The primary clinical endpoint was major adverse cardiac events at 3-year follow up. Secondary clinical endpoints were all-cause death and peak creatine kinase levels.

Out of the 406 patients enrolled between 2008 and 2014, 54% were treated with a long delay vs. 46% with a short delay. Age at presentation was the only predictor with a prolonged delay ($p = 0.001$). The primary clinical endpoint occurred in 15% ($n=28$) of patients in the short group, and 25% ($n = 54$) in the long group ($p = 0.02$). This difference was driven by higher rates of cardiac death ($p = 0.08$) and the need for repeated revascularisation ($p = 0.11$).

In conclusion increased age impacts the FMC-R delay in patients with STEMI. Patients with shorter treatment delays (<90 minutes after FMC) have significantly lower MACE rates at 3 years.

The jury:

Dr. med. Serban Puricel

Dr. med. Sophie Degrauwe

Prof. Dr. med. Stéphane Cook

Prof. Dr. med. Michael Walch