Background
Patients with acute pulmonary embolism (PE) leading to cardiac arrest are associated with high morbidity and mortality.\textsuperscript{1,2} In these patients thrombolysis is expected to improve the outcome. However, studies evaluating rescue-thrombolysis failed to show a beneficial effect in emergency settings.\textsuperscript{3} The aim of the study was to determine the factors influencing success of thrombolysis during cardiopulmonary resuscitation (CPR) in patients with fatal PE.

Methods
We retrospectively analyzed the outcome of 104 consecutive patients with confirmed (n=63) or highly suspected (n=41) PE and monitored cardiac arrest. In all patients recombinant tissue plasminogen activator was administrated for thrombolysis during CPR.

Results
In 40 patients (38.5\%) a return of spontaneous circulation (ROSC) could be achieved successfully. The main determinant for better outcome was the time delay between cardiac arrest onset and the administration of thrombolysis (Figures): patients with ROSC received thrombolysis significantly earlier after CPR onset compared to patients without ROSC (13.6±1.2 min vs. 24.6±0.8 min; p<0.001). 19 patients (47.5\%), out of the 40 patients with initially successful resuscitation, survived to hospital discharge. Moreover, we uncovered that in patients with hospital discharge thrombolysis therapy was begun with a significantly shorter delay after cardiac arrest compared to all other patients (11.0±1.3 vs. 22.5±0.9 min; p<0.001).

Conclusion
Rescue-thrombolysis should be considered and started immediately in patients with PE and cardiac arrest.

\textsuperscript{1} Kasper et al., J Am Coll Cardiol 1997
\textsuperscript{2} Goldhaber et al., Lancet 1999
\textsuperscript{3} Böttiger et al., N Engl J Med 2008