

Early Cardiac Rupture Following Streptokinase in Patients with Acute Myocardial Infarction: Retrospective Cohort Study

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Aim. To assess the incidence and timing of cardiac rupture following streptokinase (SK) administration in acute myocardial infarction (AMI).

Methods. We retrospectively analyzed the clinical sheets of AMI patients treated at the Coronary Care Unit in University Hospital Split, Croatia, between January 1, 1996, and December 31, 1998. We selected the patients who died following SK administration (1.5 million U in a 30 min iv. infusion), with a discharge diagnosis of "AMI" and "cardiac tamponade – ventricular rupture". AMI was defined by typical chest pain, ECG, and/or enzymatic changes. Echo or autopsy verified diagnosis of cardiac tamponade and/or rupture, as well as pericardial effusion and/or free-wall rupture.

Results. Out of 726 AMI patients 136 (18.7%) were treated with SK, and 6 had cardiac rupture (4 men and 2 women; 4.4%). Autopsy revealed that 1 patient had ischemic and 2 had transmural hemorrhagic AMI. Three out of 6 patients died 2-4, and 3 died 5-7 hours after SK administration. Six patients who died from cardiac rupture (mean age 72.3 ± 9.0) were significantly older than AMI survivors treated with SK (121 patients, mean age 60.5 ± 12.0 years, $p < 0.001$).

Conclusion. In case of unexplained clinical deterioration in AMI patients over 70 during the first hours after SK administration, cardiac tamponade due to a free-wall rupture should be suspected. SK administration in patients with AMI over 70 years should be a selective and not a routine treatment.

Key words: *cardiac tamponade; heart rupture, post-infarction; ischemic heart disease; ischemia, myocardial; myocardial infarction; streptokinase*

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