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Early abciximab administration before primary percutaneous coronary intervention improves clinical outcome in elderly patients transferred with ST-elevation myocardial infarction
Data from the EUROTRANSFER registry ☆

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Abstract

Background: Limited data are available concerning benefits and risks of early abciximab (EA) administration before primary percutaneous coronary intervention (PPCI) in elderly ST-segment elevation myocardial infarction (STEMI) patients. The objective of the study was to assess the impact of EA before PPCI in elderly (≥65 years) patients.
Methods and results: We identified 545 patients <65 years (354 with EA administration (>30 min before PPCI), 191 late abciximab (LA)), and 541 patients ≥65 years of age (373 EA, 168 LA) in the EUROTRANSFER Registry database. Elderly patients were more likely to have comorbidities, angiographic PCI complications, and bleeding events. EA promotes infarct-related artery patency before PPCI and improves myocardial reperfusion after PPCI in both age groups, but the risk of 30-day death (EA vs. LA: <65 years, 2.0% vs. 1.6%; $p=0.999$; ≥65 years, 5.9% vs. 14.3%; $p=0.001$) and 30-day death+reinfarction (EA vs. LA: <65 years, 2.5% vs. 2.1%; $p=0.999$; ≥65 years, 7.5% vs. 17.3%; $p=0.001$) was reduced in elderly patients only. There was no difference in bleedings, especially major bleedings requiring transfusion (EA vs. LA: patients <65 years, 2.3% vs. 0%, $p=0.055$; ≥65 years, 2.4% vs. 3%; $p=0.448$) between groups.
Conclusions: Patients ≥65 years of age have a substantially increased risk of angiographic PCI complications, death and bleeding events compared with their younger counterparts. Strategy of EA before PPCI improves reperfusion parameters and clinical outcome in elderly patients and is not associated with elevated risk of major bleeding.

Keywords: Myocardial infarction; Angioplasty; Abciximab; Elderly; Bleeding complications; Registries

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1. Background

Nowadays, primary percutaneous coronary intervention (PCI) is the preferred way of reperfusion in ST-segment elevation myocardial infarction (STEMI) [1]. Adjunctive abciximab use during primary PCI leads to mortality reduction and is a well established component of the interventional strategy [1–3]. There is also growing amount of data suggesting beneficial effects of early abciximab administration over conventional therapy especially in high-risk STEMI patients [4–8].

Primary PCI in elderly STEMI patients carries a decreased success rate and an increased procedural risk, associated mainly with higher prevalence of access site complications and elevated risk of bleeding when compared with those of younger age. Elderly STEMI patients are also at higher risk of cardiac and non-cardiac death or non-ischemic events as a result of higher prevalence of comorbid conditions [9,10]. In opposite, the risk of reinfarction, a need of urgent target vessel revascularization or stent thrombosis is similar among elderly and younger patients [9,10]. As the number of elderly STEMI patients, especially treated with primary PCI is progressively increasing, the assessment of the safety and efficacy of primary PCI and adjunctive therapies in patients ≥65 years of age is an issue of increasing importance [10].

Unfortunately, it must be emphasized that elderly STEMI patients are often excluded from randomized clinical trials and it is hard to generalize expected outcomes from trials to the real life setting for the elderly. More reliable data concerning actual treatment strategies and outcomes in elderly STEMI patients may be drawn from large scale, multicentre registries. The objective of the study was to assess the impact of early abciximab administration before primary PCI for STEMI in elderly (≥65 years) patients based on data from the EUROTRANSFER (European Registry on Patients with ST-Elevation MI Transferred for Mechanical Reperfusion with a Special Focus on Upstream Use of Abciximab) Registry.

2. Methods

2.1. Study population

EUROTRANSFER Registry was an international, prospective, multicenter European registry. Patients data were collected in 15 STEMI hospital networks from 7 European countries between November 2005 and January 2007 (www.eurotransfer.org) [11]. The registry collected data on all consecutive STEMI patients ≥18 years old who were scheduled for primary PCI and who arrived to the PCI-hospital by transfer from either a referral hospital or were picked-up from an ambulance which could provide qualified medical therapy. Patients who arrived to the PCI-hospital from other pathways than those specified above, e.g. those who came by ambulances that did not provide specific medical therapy or presented directly to the emergency room of the PCI-hospital were excluded from the registry. For the purpose of this analysis patients who received abciximab at any time of their index PCI procedure for STEMI were retrieved from the registry database (Fig. 1). Afterwards, patients were divided into two prespecified age groups (patients <65 years of age, and the elderly patients defined as patients ≥65 years of age) [10]. In the next step, these patients were divided into those who received abciximab early (before or during transfer to the PCI-hospital, at least 30 min prior to first balloon inflation, or coronary angiography in case of patients who did not undergo PCI) and late (patients who received abciximab closer than 30 min to or during PCI procedure).

EUROTRANSFER Registry was registered at ClinicalTrials.gov (NCT00378391). The study protocol and execution complied with the Declaration of Helsinki and has been approved by the Jagiellonian University Bioethics Committee in Krakow, Poland.

2.2. Clinical assessment

Clinical outcome was evaluated through monitoring of major adverse cardiovascular events: all-cause death, reinfarction and urgent revascularization (PCI or coronary artery bypass grafting) and bleeding complications: puncture site hematoma, intracranial hemorrhage, major bleeding requiring transfusion at 30 days after PCI. Additionally 1-year all-cause mortality was assessed. Definitions of end points have previously been reported [11]. Thrombolysis In Myocardial Infarction (TIMI) flow in infarct related artery

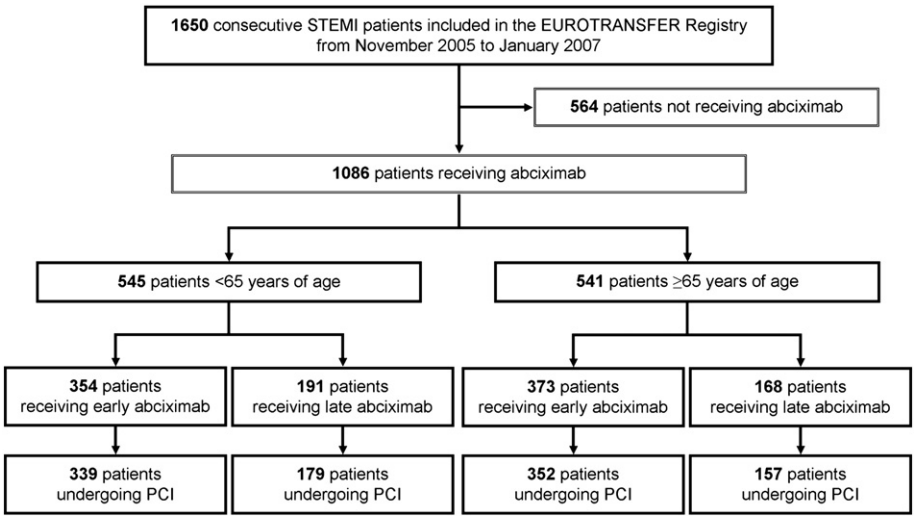

Fig. 1. Scheme of groups' distribution in the registry.