THE IMPORTANCE OF PRE-HOSPITAL INFARCT DIAGNOSIS AND THERAPY ON INITIAL PATENCY OF THE INFARCT RELATED VESSEL BEFORE PCI IN PATIENTS WITH STEMI

ACC Poster Contributions
Georgia World Congress Center, Hall B5
Sunday, March 14, 2010, 3:30 p.m.-4:30 p.m.

Session Title: Acute Myocardial Infarction--Timing Issues in Reperfusion Therapy
Abstract Category: Acute Myocardial Infarction--Therapy
Presentation Number: 1101-288


Background: Pre-hospital infarct diagnosis in the ambulance or at a referral center gives the opportunity to start anti-platelet and anti-thrombotic agents before arrival at a PCI center. However, whether this is associated with improved initial patency of the infarct related vessel (IRV) is unknown.

Methods: From 1990 until 2007 all consecutive patients with STEMI were registered in a database. Initial patency, defined as TIMI 3 flow of the IRV was recorded at initial angiography and was compared between three time intervals: 1990 - 1995 (period A), 1996 - 2001 (period B), 2002-2007 (period C).

Results: 7.398 patients with STEMI were registered, 727 (9.8%) in period A, 2.380 in period B (32.2%) and 4.291 in period C (58%). Patients from period C were older, more often female, but less often had previous MI and less often presented in Killip class > 1. Pre-hospital infarct diagnosis with early initiation of aspirin (500 mg) and heparin (5000IU) was present in 28.6% in period A, 77.4% in period B and 96.2% in period C. Initial patency of the IRV was 13.2% in period A, 15.9% in period B and 20.9% in period C (p<0.001 for trend). After multivariate analysis, pre-hospital infarct diagnosis and therapy was an independent predictor of initial patency of the IRV (OR: 1.679, 95% CI 1.293 to 2.180). Patients with initial TIMI 3 flow of the IRV had a significantly lower one-year mortality (3.6 % vs. 7.5%, p=0.004).

Conclusions: In recent years the majority of STEMI patients underwent PCI after a pre-hospital diagnosis either in the ambulance or at a referral center. Pre-hospital infarct diagnosis with concomitant early initiation of aspirin and heparin was associated with improved initial patency of the infarct related vessel before PCI.