CHANGING INCIDENCE OF CARDIAC RUPTURE AND ITS DETERMINANTS IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION: RESULTS FROM 5,694 PATIENTS DATABASE OVER 35 YEARS

Background: It remains unknown whether the incidence of cardiac rupture (CR) in acute myocardial infarction (AMI) and its determinants have changed over years under the medical progress for AMI.

Methods: The present study included a total of 5694 consecutive AMI patients (male/female=4361/1333, age 66±12[SD] years) hospitalized between 1977 and 2012, who were divided into 3 groups by years; 1st interval (n=1739; 1977 to 1989), 2nd interval (n=1902; 1990 to 2000) and 3rd interval (n=2053; 2001 to 2012). The incidence of CR and its determinants were compared among groups.

Results: The overall incidence of CR was 2.4% (n=135). Over 35 years, there was a linear trend increasing primary percutaneous coronary intervention (PPCI) (1st;0.3%, 2nd;33%, 3rd;67%, P<0.001). The incidence of CR in the 3rd interval was significantly lower than those in 1st and 2nd intervals (1st;2.7%, 2nd;2.7%, 3rd;1.8%, P=0.04). In the multivariate analysis (Table), female, first-AMI and older age (>70 years old) were common independent determinants among 3 intervals, although hypertension and anterior AMI became insignificant in the recent two intervals. Importantly, PPCI became a significant factor preventing CR in 3rd interval, whereas thrombolysis was insignificant in any intervals.

Conclusion: Since PPCI has become widespread in the recent decade, the incidence of CR has been significantly decreasing. However, even in the recent intervention era, female, first-AMI and older age remain important determinants of CR.