Should Therapeutic Strategy be Decided According to Renal Status in Patients with Non ST Segment Elevation Myocardial Infarction?

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Aim: To evaluate the preferred therapeutic strategy and its long term significance in patients with Non ST Elevation Acute Myocardial Infarction (NSTEMI), according to their renal status.

Methods: We prospectively studied 1038 consecutive patients admitted with NSTEMI. The glomerular filtration rate (GFR) was estimated by means of Modification of Diet in Renal Disease equation. Study population was grouped according to GFR, above and under 60 ml/min/1.73 m^2 body surface area (BSA). Long term mortality (mean follow-up 24 months) was compared for early invasive and conservative strategies. Cox regression models were used to assess the relationship between the therapeutic approaches and long term survival.

Results: In the renal failure group (mean GFR=41.4±13.7 ml/min/1.73 m^2 BSA), out of 353 patients, 130 (36.8%) were treated by early invasive strategy, while 223 (63.2%) received medical treatment. In the normal renal function group (mean GFR=92.1±24.9 ml/min/1.73 m^2 BSA), out of 685 patients, 445 (65.0%) had early invasive intervention, with the remainder of 240 (35.0%) assigned to conservative strategy. In normal renal function group, patients assigned to early invasive strategy had lower mortality rates as compared to those treated by a conservative approach (3.8% vs. 17.5%, p<0.0001). Furthermore, in renal failure group, the long term mortality was significantly lower with early invasive strategy as compared with medical treatment (15.4% vs. 43.9%, p<0.0001). After adjusting for age, gender, diabetes mellitus, anterior wall involvement, left ventricular function and Killip class, the hazard ratio for mortality were: 4.01 (95%CI [1.84-8.71], p<0.0001) for renal failure and conservative treatment, 1.02 (95%CI [0.34-3.09], p=0.963) for renal failure and invasive strategy and 2.33 (95%CI [1.06-5.14], p<0.035) for normal renal function and conservative treatment, as compared to normal renal function treated invasively. Figure 1 depicts the survival in the different groups in a Kaplan-Meier model.

Conclusion: Our results suggest that in patients with NSTEMI, early invasive strategy is the preferred therapeutic approach, irrespective to the renal status.