INTRA-AORTIC BALLOON COUNTER PULSATION AFTER PRIMARY PERCUTANEOUS CORONARY INTERVENTION AND SUBOPTIMAL CORONARY FLOW: HIGHER FLOW PREDICT HIGHER LEFT VENTRICULAR SYSTOLIC FUNCTION

Poster Contributions
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Background: Intra-aortic balloon (IABP) when applied in all patients with acute anterior ST elevation myocardial infraction (STEMI) treated by primary percutaneous coronary intervention (PPCI) and in patients with shock was not beneficial.

Aim: Evaluation of the effects of IABP on coronary flow, myocardial perfusion and left ventricular systolic function in patients with acute anterior STEMI and suboptimal PPCI angiographic outcome.

Methods: Fifty five patients with acute anterior STEMI had suboptimal PPCI outcome according to TIMI grade and myocardial blush grades (MBG). 27 were treated by IABP and 28 served as a control group. TIMI and MBG grade were evaluated before and after PPCI. Flow in the LAD was evaluated using Trans thoracic Doppler (TTE) with and without pumping. Left ventricular systolic function was valued by TTE, early after PPCI and at discharge. LVEF, LAD wall motion score index (LAD-WMSI) and LV WMSI (LV-WMSI) were measured.

Results: IABP doubled diastolic LAD flow. LVEF at admission was lower in the IABP group compared to controls but both were similar at discharge. IABP increased LVEF by more than 5% in 70% of patients treated with IABP. Patients who increased their LVEF were younger, and had lower prevalence of smoking 32% vs. 80%, obesity 11% vs. 40%, renal failure 0% vs. 40%, KILLIP class 1.75 vs. 2.7 and had lower prevalence of previous PCIs. TIMI and MBG grades after PPCI were higher in these patients, and higher prevalence of single LAD disease. During pumping, diastolic velocity and integrals were higher in those with improved LVEF.

Conclusion: In anterior STEMI and suboptimal PPCI, TTE Doppler helped in monitoring effects of IABP on LAD flow, allowed optimizing flow augmentation and thus improved LV systolic function in 70% of the patients.