Acute Coronary Syndromes

CLINICAL OUTCOMES OF TRANSRADIAL VERSUS TRANSFEMORAL APPROACH FOR PRIMARY PERCUTANEOUS CORONARY INTERVENTION IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION AND KILLIP CLASS III OR IV

Poster Contributions
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Background: Transradial approach (TRA) is considered as an effective and safe route in percutaneous coronary intervention (PCI) for ST-elevation myocardial infarction (STEMI). However, patients with unstable hemodynamic were excluded in most related studies. We aimed to compare clinical outcomes of STEMI patients with Killip III or IV who underwent primary PCI using TRA or transfemoral approach (TFA).

Methods: We included eligible 1,488 (9.0%) patients with STEMI and Killip class III or IV who underwent primary PCI [131 (8.8%) in TRA group and 1,357 (91.2%) in TFA group] from 16,615 STEMI patients in the Korea Working Group on Myocardial Infarction registry. Primary endpoints were mortality and the composite of major adverse cardiac events (MACE, defined as death of any cause, non-fatal MI, or revascularization) at 12 months.

Results: Baseline clinical, angiographic, and procedural characteristics were not different in both groups. Symptom-to-door time (179 vs. 189 min) and peak troponin I (30.1 vs. 25.0 ng/mL) were similar and the rate of resuscitation before arrival was significantly higher in TFA group (6.1 vs. 12.5%, p=0.031). Door-to-laboratory arrival time and door-to-balloon time were significantly higher in TFA group (50.0 vs. 59.0 min, p=0.021; 71.0 vs. 80.0 min, p=0.025, respectively) with similar laboratory arrival-to-balloon time (21.0 vs. 21.0 min). Procedural success was not different. Procedure-related complications and CCU stay were significantly higher in TFA group (24.6 vs. 44.9 %, p <0.001; 2.0 vs. 3.0 days, p <0.001, respectively). In-hospital mortality, (19.1 vs 19.9%), the composite of MACE (26.7% vs 31.3%) and MACE-free survival at 12 months (Log Rank p=0.83) were not different in the both groups. By multivariate analysis, independent predictors of the composite of MACE at 12 months were age (HR 1.03), systolic blood pressure (HR 0.99) , resuscitation prior to arrival (HR 1.47), and serum creatinine (HR 1.02), but not TRA (HR 1.01, p=0.968).

Conclusions: TRA was as feasible, safe, and comparable as TFA for primary PCI in patients with STEMI and unstable hemodynamic. In-hospital and long-term outcomes in these patients remain poor.