

# Left transradial access is safe and effective in acute STEMI patients undergoing primary percutaneous coronary intervention: results from CROSS-STEMI (CROatian Single center Study in STEMI patients)

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**Aim:** In the last few years University Hospital Center Sestre milosrdnice, Zagreb has become dedicated to the radial approach with nearly 90% of percutaneous coronary interventions (PCI) performed with either left or right radial access route. In time, left radial approach has become the first choice option for most of the patients (pts) with acute ST-segment elevation myocardial infarction (STEMI). The aim of this study was to compare the efficacy and safety of left transradial access (L-TRA) with the right transradial (R-TRA) and transfemoral (TFA) access in the setting of primary (PCI) for acute (STEMI).

**Patients and Methods:** This single-center, retrospective study included 767 consecutive acute STEMI patients, treated with primary PCI from January 2011 to May 2013, who were divided in three groups according to the arterial access site: L-TRA group (413 patients, 53.85%), R-TRA group (110 patients, 14.34%) and TFA group (244 patients, 31.81%). We collected data on the procedure success, procedure, door-to-balloon and fluoroscopy time and bleeding complications. Of all the patients, 43.5% of them were ad-

mitted directly through the emergency department and 56.5% of them were transported from other hospitals being the part of the Croatian PCI network.

**Results:** Procedural success was similar among the three groups (L-TRA vs TFA 93.2% : 88.5%,  $p=0.495$ ; and L-TRA vs R-TRA 93.2% : 90.1%,  $p=0.855$ ). Additionally, all investigated procedural characteristics were similar among compared groups, including total procedure time (L-TRA vs TFA  $71.9\pm 18.4$  :  $73.3\pm 21$ min,  $p=0.366$ ; and L-TRA vs R-TRA  $71.9\pm 18.4$  :  $72.7\pm 21.3$ min,  $p=0.966$ ) and fluoroscopy time (L-TRA vs TFA  $11.1\pm 6.9$  :  $11.6\pm 9.3$ min,  $p=0.461$ ; and L-TRA vs R-TRA  $11.1\pm 6.9$  :  $12.8\pm 8.2$ min,  $p=0.128$ ). When considering the bleeding complications (change in the concentration of haemoglobin), there were no differences between the three groups (L-TRA vs TFA  $10\pm 10.1$  :  $11\pm 10.8$  g/L,  $p=0.308$ ; and L-TRA vs R-TRA  $10\pm 10.1$  :  $10\pm 11.8$  g/L,  $p=0.254$ ).

**Conclusion:** In a PCI center committed to PCI, left transradial approach for acute STEMI patients undergoing primary PCI, is as equally effective and safe as transfemoral or right transradial approach.

**KEYWORDS:** ST-segment elevation myocardial infarction, radial access, primary percutaneous coronary intervention.

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## Literature

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