Changing the Paradigm: Radial Approach as the Main Access for Percutaneous Coronary Intervention

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Background: The radial approach for percutaneous coronary intervention (Rpci) is underused in Israel despite increased patient comfort and safety. Our aim was to describe a large center's experience with using the radial artery as the main access for PCI.

Methods: Retrospective comparison of 1961 consecutive patients who underwent PCI (2004-2006) via radial (1267 pts, 65%) or femoral artery (694 pts, 35%).

Results: Rpci pts were younger (63±12 vs. 65±12 years, $p<0.01$) and more frequently men (78% vs 70%, $p<0.01$). They had higher rates of dyslipidemia (83% vs. 74%,$p<0.01$); hypertension (71% vs 66%,$p<0.01$), and smoking (46% vs. 41%,$p<0.01$) and lower prevalence of renal failure (14% vs. 23%$p<0.01$).

Rpci was used less often in pts with STEMI,(28% vs. 72%, $p<0.01$) or visible thrombus (13% vs. 30%, $p<0.01$) while patients presenting Killip class I-II (96% vs. 90%, $p< 0.01$) or normal to mildly decreased LV function (71% vs. 56%, $p<0.01$) were approached more frequently through the radial artery.

Rpci had a longer fluoroscopy time (15±10 vs. 13±9 min, $p<0.01$). The angiographic and angioplasty characteristics as well as PCI success were similar (99%) in both groups.

A multivariate analysis found that STEMI [OR:0.1 (0.05-0.18)], Killip III-IV [OR: 0.25 (0.07-0.5)]; age [OR: 0.96 (0.93-0.98)]; and renal failure [OR:0.36 (0.16-0.85)] were predictors for the not selection of the radial approach.

Conclusions: Radial PCI can be performed successfully in the majority of patients requiring coronary angioplasty. Hemodynamic disturbances, advanced age, renal failure and STEMI are still strong reasons for the selection of an alternative approach.