

## **The Impact of the Transradial Approach for Coronary Angiography and Intervention on Patient Outcomes**

**David Rosenmann**, Rivka Farkash, Yaron Almagor, Dan Tzivoni, David Meerkin  
*Cardiology, Shaare Zedek Medical Center, Israel*

### **Background:**

The transradial approach (TRA) for coronary angioplasty and intervention has gained popularity amongst physicians and patients in recent years due to increased patient comfort and reduced complications. The stepwise penetration of this approach in centers is often associated with less complicated patients. We aimed to assess the patient population treated with the TRA in a single center over a 12-year period.

### **Methods:**

Data from all coronary catheterizations performed in our center between 2000-2012 were analyzed to evaluate outcomes of TRA vs Femoral approach (FA). Multivariate models were used to evaluate the adjusted association between access site and bleeding complications (defined by Hb drop  $\geq 3$  mg/dl), length of hospital stay (LOS) and in hospital mortality. Models were adjusted for patients' age, gender, CAD risk factors and history, acute coronary syndrome and procedural characteristics.

### **Results:**

Over the study period, the TRA was used in 3457 (17.9%) of the 19362 procedures performed. Penetration of the TRA was stepwise and progressive, being  $<1\%$  of all procedures in 2000, 20.5% in 2008, and 52.1% in 2012 (p for trend  $<0.0001$ ). When comparing TRA to FA, there was no significant difference in mean patient age ( $63.5 \pm 11.9$  and  $63.8 \pm 11.8$ ,  $p=0.18$ ), female gender (17.5% and 18.0%,  $p=0.42$ ) or PCI success rates (95.5% and 95.4%,  $p=0.92$ ). After adjusting for patient and procedural characteristics, TRA remained highly associated with reductions in in-hospital mortality (OR=0.26, 95%CI 0.12-0.54,  $p<0.0001$ ) and major bleeding (OR=0.49, 95%CI 0.35-0.67,  $p<0.0001$ ). Additionally, LOS was also significantly reduced with TRA ( $p<0.0001$ ).

### **Conclusions:**

Although still clearly in the penetration phase of progressively increasing percentages of cases being performed by TRA, this approach was associated in this large registry with reductions in in-hospital mortality, major bleeding and LOS with no compromise in procedural success rates.