Changing the Paradigm: The Impact of the Transradial Approach on One Year Survival after Percutaneous Coronary Intervention

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Background. Transradial coronary angiography is associated with a lower rate of bleeding. The impact of this approach on outcome following PCI has not been clearly established .

Aim: To compare survival of patients who had transradial or transfemoral PCI .

Methods: Retrospective analysis of 631 intensive care coronary unit patients (2004 to 2006) who underwent transfemoral (351 pts, 56%) or transradial (280 pts, 44%) PCI. Killip III-IV pts were excluded. Minimal follow up was one year. Demographic, clinical, angiographic and angioplasty characteristics, bleeding complications and mortality were compared. Multivariate analysis was performed to identify independent predictors of one year survival .

Results: Radial pts were younger (62±13y. vs.64±13y. ,$p<0.01$) and more frequently male (80% vs. 73%, $p=0.04$). They had a lower serum creatinine (0.9±0.3 vs.1.1±1.1 mg/dl, $p=0.02$) and higher Hb (13.3 ±1.7 vs. 12.7±1.8 gr/l ,$p<0.01$). Femoral pts presented more frequently with ST elevation myocardial infarction (80% vs.51%, $p<0.01$) and more often had primary PCI (59% vs. 23%, $p<0.01$) DES was more frequently used in radial PCI (26% vs.18%,$p<0.01$)
The transradial approach was associated with less access site bleeding complications (17% vs 36%,$p<0.01$), large hematoma (4% vs 10%,$p<0.01$) and total bleeding (19% vs.39%, $p<0.01$).No significant difference was seen in non access bleeding (2 % vs. 3%) but the need for transfusions tended to be lower with the radial approach (1% vs 4%, $p=0.06$). One year mortality was lower in radial vs. femoral pts (7% vs 16%, $p<0.01$).
A Multivariate analysis found that the selection of the radial approach was an independent predictor of one year survival after PCI (hazard ratio 0.4 (95%CI: 0.1-0.9,$p=0.02$).

Conclusions. Transradial PCI is associated with a reduction of bleeding complications and one year mortality.