Is the rate of femoral access site complications increased in the hands of “radialists”?  

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Background: Transradial approach (TRA) for coronary angiography and interventions was shown to be associated with a striking reduction in the rate of vascular complications as compared to transfemoral approach (TFA). As a result, the percentage of TRA procedures performed worldwide, with a growing proportion of physicians who select TRA as their preferred approach in the vast majority of cases (so called “radialists”). A possible drawback of this behaviour could be the loss of expertise in TFA, potentially leading to an increased rate of vascular injury when TFA is needed due to technical problems (e.g. catheter shaft stiffness, mechanical reasons, need for large guiding catheters).

Methods: We designed a prospective, single center, 3 years registry aimed to investigate whether high-volume TRA operators (HTRAop; >75% TRA) experience an increased rate of femoral access site complications as compared to lower-volume TRA operators (LTRAop; <75% TRA). All femoral TRA requiring interventions or prolonging hospital stay were recorded.

Results: Between May 2009 and May 2012 2749 procedures, of which 1255 percutaneous coronary interventions (PCI) were performed at our Institution by 4 main operators. HTRAop performed 1466 procedures, whereas LTRAop performed 1283 procedures. The HTRAop was 78.6% (1976/2546) in HTRAop and 61.7% (61.3-62.2) in LTRAop (p<0.001). The rate of PCI was 47.9% in HTRAop vs 43.1% in LTRAop (p<0.05). The majority of procedures were performed with 6F sheaths; 4 procedures were performed with 5F and 150 with 7F sheaths. Vascular closure devices were only used in patients with 0.95. We observed 12 femoral VASC: 8 pseudoanuerosysms (6 of which treated by echo-guided compression, the remaining by surgery), 3 cases of limb ischemia, treated by surgery, and 1 case of femoral vein thrombosis. In TFA procedures, the rate of femoral VASC was not different between HTRAop and LTRAop (0.96% vs 1.56%; p=0.38). Overall, less femoral VASC were observed in HTRAop as compared to LTRAop (0.20% vs 0.70%; p<0.05).

Conclusions: Our data do not support the concern that high-volume TRA operators could experience a higher rate of femoral VASC as compared to lower-volume TRA operators (LTRAop; <75% TRA) experience an increased femoral VASC when performing TFA. A higher TRA rate is not reversed once the radial approach is used in >60% of PCI cases.