Complications of Wrist Arteries Catheterization in High Volume Laboratory - Prospective Registry

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Wrist arteries access catheterization (WAAC) has the advantage of low incidence of bleeding and vascular complications. However there are no large multicenter registries examining complication of this approach.
Objectives: To describe the incidence of complications during and after WAAC.
Methods: Single center prospective registry of high volume WAAC. Complications were collected prospectively from November 2005 through October 2011.
Results: We performed 8608 catheterizations via wrist arteries in 6 years: 7754 (90.1%) transradial and 854(9.9%) trasulnar. Mean age (60.9±11.7 years), women (38.2%), BMI 27.8±5.4, diabetic 31.4% and hypertensive 44.9%. Coronary angioplasty was performed in 46.4% of patients. Procedural failure and crossover to alternative access site diminished from 5.7% in the first 2 years to 1.3% in the last 2 years ($p<0.0001$). Significant vascular complications were observed in 9 patients (0.1%): Forearm hematoma due to radial artery perforation 5 (0.6%) (1 developed compartment syndrome needed surgical intervention and blood transfusion), prolonged hand ischemia 2, radial artery bleeding needed surgical suture 1, distal embolization 1. Periprocedural Stroke/TIA 4 patients (0.05%). There were no death related to the procedure. Following the procedure 5 patients (0.07%) developed complex regional pain syndrome treated with anti-inflammatory drugs. Multivariate analysis revealed that early experience (OR 1.26, 95% CI 1.06-1.50, P=0.007), age>75 years (OR 1.23, 95% CI 1.05-1.44, P=0.009), female gender (OR 1.13, 95% CI 1.00-1.27, P=0.011), and diabetic (OR 1.04, 95% CI 0.97-1.11, =0.016) were independent predictors of complications.
Conclusion: Wrist arteries catheterization is associated with unique set of complications, and although infrequent, they present a challenge to catheterization laboratory staff to prevent and manage these issues as they appear.