

“All roads lead to Rome”: Transradial access as alternative routes of vascular access for performing pediatric cardiac catheterization

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Radial arterial access for coronary angiography and left heart catheterization is widely used in adults. We aimed to determine its safety and feasibility in pediatric practice. Twenty-three children and adolescents (25 procedures) with congenital heart disease (CHD) were studied. We conducted 24 diagnostic and 1 interventional procedures. In all patients functioning of their palmar arch was proven through Allen's test. The radial artery was cannulated with a 5-Fr sheath after subcutaneous injection of 2% lidocaine. In order to prevent an arterial spasm, we injected a Verapamil and Heparin cocktail on all patients. We did a diagnostic catheterization on 21 patients by using a Pig-tail catheter. On all of these patients we concluded all planned procedures (angiography, oximetry and manometry). Selective coronary angiograms were obtained using Judkin or Amplatz coronary catheters in 3 patients. On a patient with coarctation of the abdominal aorta and stenosis of the left renal artery, we stented the artery through a 6F transradial sheath. All children had a haemostatic bandage with Adheban after the procedure. Median age was 15.4 years (range, 12.10 –17.11 years), and median weight 63.5 kg (range, 46–115 kg). Everyone was premedicated with Midazolam or Midazolam and Bromazepam. In 17 cases (68%) the study was performed under local anesthesia. Five children had a marked arterial spasm. For the first one it was necessary that the catheterization continues through the femoral artery. The other child overcame the spasm after the application of 2,5 mg Verapamil. We had no other complication during or after the procedures. In all diagnostic catheterizations we performed the required volume of angiographies, manometries and oximetries without difficulty of access. In all pediatric patients we did not hesitate to ask for help from an adult interventional cardiologist if technical difficulties occurred. In conclusion, we believe that transradial access is a good and safe alternative for performing diagnostic and interventional procedures on children and adolescents with CHD.