DISSECTION OF THE TOTAL LENGTH OF THE DESCENDING AORTA DUE TO A FEMORAL PUNCTURE – AN UNCOMMON COMPLICATION OF VASCULAR ACCESS FOR CARDIAC CATHETERISATION

Muhammad Imran Bin Abdul Hafidz, Ramesh Singh

BACKGROUND: Percutaneous coronary intervention is a procedure historically done via the femoral artery but is increasingly being done via the radial artery. Transradial approaches offer increased comfort for the patient and are associated with reduced vascular complications including bleeding and injuries to major arteries.

CASE REPORT: We present a case of a 57-year-old male who was diagnosed with severe triple vessel disease on a recent elective angiogram performed to investigate angina. He was initially referred for a coronary artery bypass graft operation after the first angiogram, however refused, opting instead for high-risk multi-vessel angioplasty. We had planned to perform the complex procedure transfemorally via a 7-French femoral sheath. The right femoral artery was palpated and a single puncture with a standard puncture needle was performed. The scrub nurse assisted by inserting the J-tip sheath guidewire but stopped after resistance. The guidewire was forcibly advanced despite resistance followed by insertion of the femoral sheath. Resistance was also encountered with a 0.035" J-tip wire and was noted to coil abnormally in the iliac artery but advanced up the descending aorta followed by a diagnostic JL 4.0 catheter. Advancement was halted after the patient complained of pain after which the J-tip is withdrawn and contrast injected through the catheter revealing a dissection from the level of the renal arteries distally into the right iliac artery. An emergency CT aorta showed a Stanford Type B aortic dissection extending from the left subclavian artery distally into both iliac arteries. Patient was treated conservatively with tight blood pressure control and made full recovery.

CONCLUSION: Vascular access complications are more common with femoral access compared to radial access, and thus the radial route has become the preferred route for coronary procedures. Nonetheless, aortic dissections are uncommon and in our case likely resulted from a femoral artery dissection with the puncture needle, which propagated with advancement against resistance with the 0.035" wire. Fluoroscopy during femoral artery punctures and contrast injections with the puncture needle or femoral sheath has been utilized routinely and can be used to guide femoral artery punctures, identify dissection at access sites and reduce complication rates.