

8. Rare Complication of Pseudoaneurysm After Transradial Access

A transradial approach to vascular access is rapidly becoming preferable to traditional femoral artery access for both diagnostic coronary angiography and percutaneous coronary intervention (PCI). This trend is explained by the significant reduction in the occurrence of access-site complications observed when selecting a transradial over transfemoral technique – reported to be 0.6% and 1.5%, respectively. Complications of transradial catheterization include radial artery occlusion, nonocclusive injury, spasm, hand ischemia, nerve damage, bleeding and pseudoaneurysm formation .

A pseudoaneurysm (PSA) is described as a tear through all of the layers of the artery with persistent flow outside of the artery contained by the surrounding tissue . Clinically significant pseudoaneurysm occurs in 0.05% to 1.0% of diagnostic and up to 6% of interventional transfemoral procedures . Post-transradial catheterization pseudoaneurysm is rare, with an incidence of <0.1% reported in a large case series.

Factors predisposing to the development of radial artery pseudoaneurysm include multiple puncture attempts, ongoing systemic anticoagulation, inadequate hemostasis/postprocedure compression, vascular site infection and the use of larger catheter sheath sizes .

CASE REPORT:

A 50 year old male approached PSH casualty with complaint of bleeding from left forearm near wrist. He had swelling of approximately 12X10 cm size at the flexor aspect of the left wrist from where active bleeding was present. Immediately skin was sutured to stop bleeding. Ultrasound of local part was done which showed homogenous swelling suggestive of hematoma or aneurysm.

After all preoperative investigation, patient was taken for operation for exploration of left wrist. Pseudo aneurysm of radial artery was found. With careful dissection both proximal and distal ends of radial artery was ligated. Post operatively all finger saturation was 98-100% and no sensation

impairment was present.

DISCUSSION:

Treatment of radial artery PSA is based on the anatomic characteristics of the PSA. A small PSA may



Preoperative picture of forearm with radial pseudo-aneurysm



Excised Specimen of radial pseudo aneurysm following surgery



Postoperative picture of forearm following excision

be treated with compression to occlude flow into the PSA, while a large PSA may require surgical intervention. Other treatment strategies include the use of an external compression device or thrombin injection when the PSA has a narrow neck.

Although pseudoaneurysms of the radial artery are rare, they are significant and, in some cases, may result in serious consequences. Prevention must be focused on obtaining both optimal individualized postprocedure compression pressure and duration. A balance must be struck between preventing pseudoaneurysm and avoiding overenthusiastic compression resulting in occlusion of the artery.

**Attending Clinicians was Dr. Mithun Panchal, Assistant Professor & Plastic Surgeon, Dept. of Surgery, PIMSR*