Volume-3, Issue-12, December-2019: 159-162
International Journal of Recent Innovations in Academic Research
P-ISSN: 2659-1561
E-ISSN: 2635-3040

**Case Report**

# Managing Radial Artery Pseudoaneurysm in a Resource Limited Setting

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**Received:** Dec 17, 2019 **Accepted:** Dec 24, 2019 **Published:** Dec 28, 2019

**Abstract:** Reports of peripheral vascular pseudo aneurysms are infrequent in Nigeria. Radial artery pseudo aneurysm is an uncommon occurrence. In this case report, we highlights the occurrence of a case noticed a month after creation of a radiocephalic shunt, the patient's evaluation and its repair in a resource poor setting.
**Keywords:** Radial artery, pseudoaneurysm, occurrence.

## Introduction

Radial artery pseudo aneurysm is an uncommon occurrence among all peripheral artery aneurysm.[1,2] A google search shows only one reported case series in Nigeria. This case report highlights details about a radial artery pseudoaneurysm developing after radio cephalic shunt for hemodialysis access and the peculiarities, diagnosis and treatment in a resource limited setting experience by the surgeon.

## Case Report

A 65 year old known CKD stage IV male, presented to the outpatient clinic with complains of pain and swelling over the left wrist. He had a radiocephalic shunt done a month prior to presentation for hemodialysis access. He was yet to have the fistula accessed for hemodialysis use. Examination revealed a 4x2cm swelling extending from 2cm proximal to the wrist joint, on the lateral side. Swelling was pulsatile with a scar above it as shown in Figure 1. There was no neurovascular deficit noticed on examination of the left arm. Allen test revealed a good ulnar collateral blood supply. The right arm was normal. Clinical impression was a radial artery pseudoaneurysm. Due to lack of bedside vascular scan for further assessment, he was explored under local anesthesia with xylocaine inflitration, in the day case operating theatre. Intra operative finding was a pseudo aneurysm with thrombus. A 0.5cm laceration was noticed on the radial artery as seen in Figure 2.

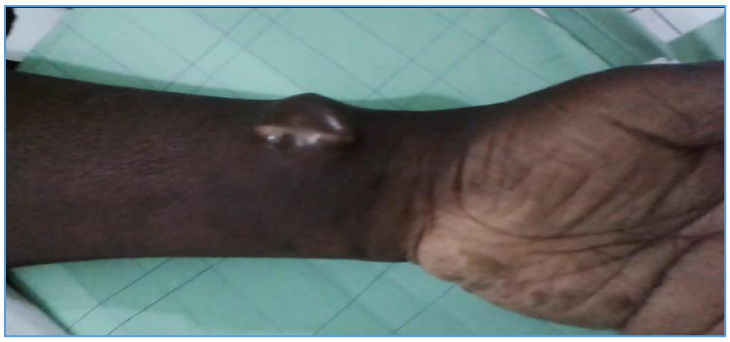

**Figure 1. Showing a swelling over the distal third of the left arm with an overlying scar.**

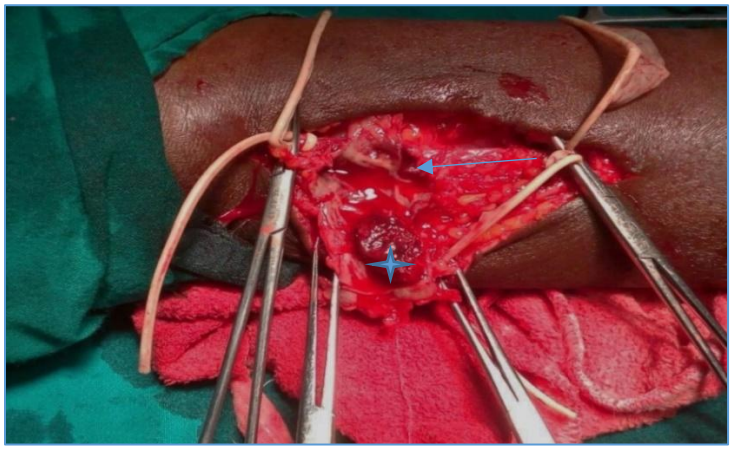

Figure 2 showing the dissection of the radial artery. The blue star is on the thrombus and the arrow pointing at the laceration in the radial artery.

There was good blood flow from both the proximal and distal end of the radial artery. The defect was repaired with 5.0 proline in single layer. See figure 3 (a and b).

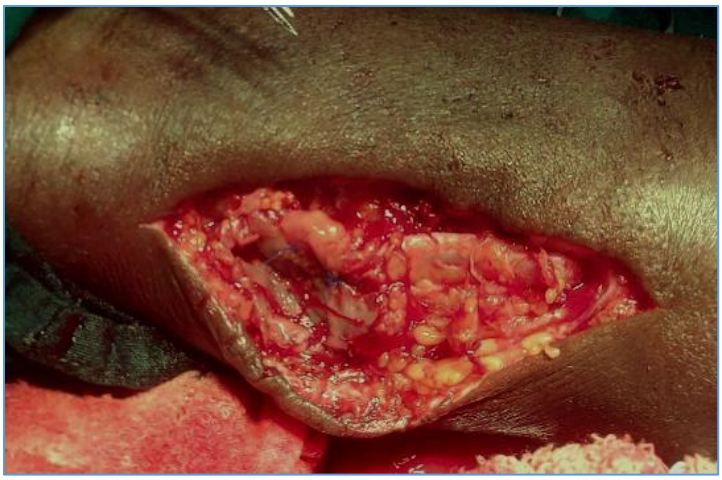

**Figure 3a. Post repair of the radial artery and division of the shunt.**

**Figure 3b. The left upper limb post procedure.**

Procedure was done on outpatient basis. Post-operative course was uneventful.

## Discussion

The radial artery has a distinct characteristics, its superficial location makes aneurysms associated with it easily noticed, more painful and subsequently patients are present early. Radial artery pseudoaneurysm is rare. When it occurs its usually provoked either by some form of intervention or trauma. In the literature from developing society, it is usually due to invasive monitoring catheter or minimally invasive procedures.[1] In contrast to that in the developing society, where post traumatic causes are more frequent.[2] Although data from West Africa is scarce, reported cases are usually from trauma. Index case was noticed postoperatively.

Presenting complains are usually pain, swelling and signs of distal ischemia caused by thrombosis. The patient in this report had pain and a pulsatile swelling. He had no evidence of distal ischemia.

Thomas and John[3] suggested that physical examination only, is unreliable and relied on bed side ultrasound scan for diagnosis and options in treatment. Due to lack of bedside ultrasound scan we depend solely on physical examination.

We routinely use the Allen's test in accessing the reliability of collateral supply from the ulnar artery. This is acceptable in our service, given its simplicity, reproducibility and non-invasive nature. A diagnostic accuracy of 78.5% to 90.3% have been reported in various studies.[4,5]

Although management could be with ultrasound guided compression or injection of thrombin, depending on the size of the defect[6], surgery is readily considered in these situations as the availability of the above is quite limited.

Collaterals with the ulnar artery make it so easily sacrificed if need be during repair or surgical expertise is lacking for repair. Repair can be done under local anesthesia, by infiltration with xylocaine, this is comfortable for the patient when expertise for regional block is lacking, making it possible for this repair to be done in a setting with limited resources.

**Conflicts of interest:** There is no conflict of interest of any kind.

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**Citation:** Osemobor, K.O., Akerele, J.M. and Okugbo, S.U. 2019. Managing Radial Artery Pseudoaneurysm in a Resource Limited Setting. International Journal of Recent Innovations in Academic Research, 3(12): 159-162.