

## Pseudoaneurysm of Radial Artery: An Uncommon Presentation after Trauma by a Fish

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**Abstract:** Radial artery pseudoaneurysm is uncommon. Most of the cases are iatrogenic following vascular access to arteriovenous fistula. Only few cases have been published in literature following trauma to wrist. Penetrating trauma to wrist can cause a breach in tunica intima and media with collection of blood between muscularis propria and tunica adventitia which will eventually lead to formation of pseudoaneurysm weeks or even months after the inciting event. We present a case of radial artery pseudoaneurysm in 41 yr old fisherman after trauma by a fish over the volar aspect of his wrist.

**Keywords:** Pseudoaneurysm, Fish, yin-yang sign

### INTRODUCTION

Radial artery pseudoaneurysm is uncommon. Most of the cases are iatrogenic following vascular access to arteriovenous fistula. Only few cases have been published in literature following trauma to wrist [1].

Penetrating trauma to wrist can cause a breach in tunica intima and media with collection of blood between muscularis propria and tunica adventitia which will eventually lead to formation of pseudoaneurysm weeks or even months after the event.

### CASE REPORT

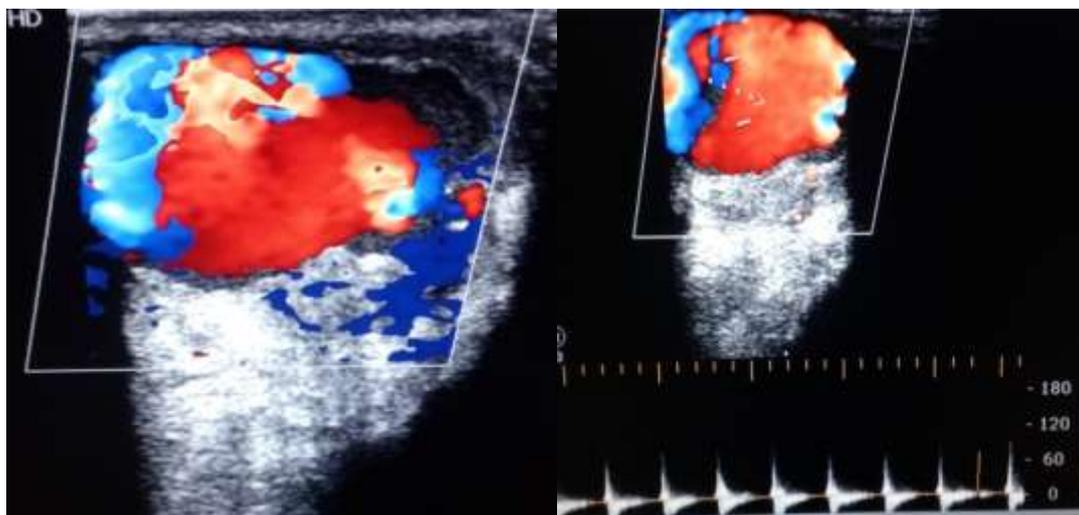
A 41 yr old fisherman of coastal Odisha presented to our department with a swelling over volar aspect of his left wrist. There was history of trauma to wrist caused by being hit by a fish 4 weeks ago. There was pain associated with the swelling. On examination, a 2\*2 cm pulsatile swelling was noted (fig.1). Minimal compression was given by the local hospital to prevent bleeding at the time of insult. Gray scale ultrasonography findings revealed a cystic lesion adjacent to radial artery with areas of variable echogenicity (fig.2) possibly suggesting hematoma. Colour doppler showed turbulent blood flow within the lesion with classic “yin-yang” pattern (fig3). Spectral waveform showed to and fro flow in the neck of pseudoaneurysm (not shown in figure).



**Fig-1: Clinical image showing a swelling over the volar aspect of left wrist. It was pulsatile and associated with mild pain.**



**Fig-2 :** Gray scale Ultrasonography showing a hypoechoic lesion (asterisk) with areas of variable echogenicity suggesting an aneurysmal dilatation with hematoma in the vicinity of radial artery (Arrow).



**Fig-3:** Colour Doppler and spectral waveform showing yin-yang pattern and turbulent to and fro flow of blood.

## DISCUSSION

The patients usually present with swelling on the volar aspect of wrist. Sometimes however, he/she may present with pain and on palpation, the referring physician will find a small pulsatile mass. In most of the cases history and physical examination will narrow down the diagnosis. But ultrasonography will be needed in all cases to confirm the diagnosis [3].

Ultrasonography shows an anechoic pulsatile mass in the vicinity of the radial artery. It may show a hematoma of variable echogenicity. Upon Doppler examination, the classic turbulent pattern of blood flow is seen (yin-yang pattern). Spectral wave form when obtained at the neck of the aneurysm shows to and fro pattern of waveform. Ultrasonography features are classic for confirming the diagnosis [1].

Pseudoaneurysm should always be treated as an emergency as it can lead to vascular ischemia of the part distal to the aneurysm. Rupture of the lesion can be catastrophic leading to profuse blood loss.

Treatment of this catastrophic complication is crucial. Ultrasonography guided occlusion is considered as one of the modality of treatment, though can be lengthy (30 mins to 1 hr) and can lead to patient discomfort [4]. Sometimes Ultrasound guided injection of thrombin can clot the blood leading to resolution of pseudo aneurysm, though embolisation can occur as a serious complication [2,5]. The best modality of treatment (as in our case) will be surgical resection of the aneurysm and vessel wall repair.

## **CONCLUSION**

Radial artery pseudoaneurysm can be a catastrophic complication of trauma to wrist. Ultrasound usually leads to a definitive diagnosis. Any evidence of aneurysm should be immediately conveyed to the referring physician to avoid resultant vascular ischemia or blood loss from the same.

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