

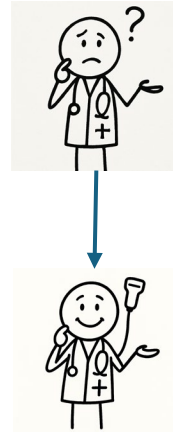
No Bruit, No Problem; POCUS as First Line Imaging for Clinically Silent Vascular Injuries

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Introduction

- A **pseudoaneurysm** (PSA) is a hematoma that maintains communication with an artery, typically due to **arterial wall injury**.
- 39% of PSAs **lack physical exam findings** (bruit, pulsation) early, complicating diagnosis
- POCUS is recognized as a rapid, accurate, non-invasive tool for early PSA identification, with the potential to **replace CTA in many cases**^[4]
- One study demonstrated a **sensitivity and specificity of 100% and 97.3%** respectively for POCUS versus angiography in a cohort of 200



Case Report

A **77-year-old woman** with atrial fibrillation on Eliquis and a history of cervical cancer presented with a **painless, slowly enlarging 2x2 cm mass** in her left antecubital fossa. Her PCP attempted aspiration, resulting in a high-pressure stream of blood, prompting ED referral. ROS was negative.

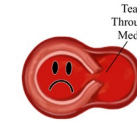
Differential Diagnoses

PSA, AVF, Abscess, Hematoma, Seroma, and Malignancy of bone

ED Course

Further ED Assessment

- Eleven weeks earlier, she experienced a stroke requiring transport via EMS, during which **an attempted IV in the AC Fossa failed**. Since then, the mass has developed.



Physical Exam

T 36.7 67bpm 119/62 99% RA

2x2cm non-tender, **non-pulsatile mass without thrill or bruit**. Pulses were intact; the neurovascular exam was normal.

ED Work-up

- Labs are not indicated at this time
- POCUS; See figures below

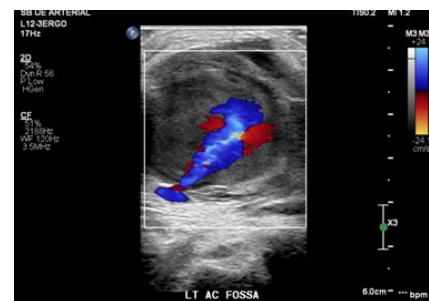


Fig 1 demonstrates pulsatile flow coming from the communicating neck of the PSA

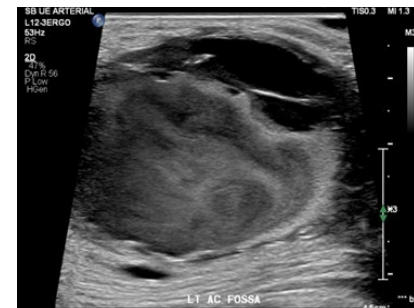


Fig 2 demonstrates the **Yin Yang sign**, which describes the swirling blood in the PSA cavity

Case Resolution

- Patient **admitted to Vascular Surgery Service** for repair of PSA.
- However, in the preoperative holding area was determined that the brachial pseudoaneurysm was thrombosed.
- Two weeks later, the patient underwent exploration and repair of the left brachial artery with placement of a 10 French Blake drain

Discussion

- Only 61% of patients with mild arterial injury show classic PE findings, with 15% entirely lacking them^[7]
- Compared to CTA, POCUS offers **immediate bedside** imaging without contrast or radiation risks.
- Color Doppler POCUS, especially the **Yin-Yang sign** and identification of a **communicating neck**, enables rapid **diagnosis even without PE findings**.^[3]



References

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