

External Jugular Vein Pseudo – Aneurysm: A Rare Case of Neck Mass

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Abstract: External jugular vein aneurysms are rare vascular abnormalities characterized by a localized dilation of the vein. These aneurysms are usually asymptomatic and may present as a soft, compressible neck mass that becomes more prominent with straining or physical activity. While typically benign, the condition can occasionally be associated with pain or cosmetic concerns. Diagnosis is often confirmed through imaging modalities such as Doppler ultrasound, CT, or MRI. Although conservative management is appropriate for most cases, surgical intervention may be considered in cases of significant symptoms or cosmetic deformity. This case report discusses the clinical presentation, diagnostic approach, and management strategies for external jugular vein aneurysms based on current literature.

Keywords: aneurysm, external jugular vein, venous aneurysm

1. Introduction

Pseudoaneurysm of the external jugular vein is a relatively unusual cause of a neck mass caused by the low pressure venous system. Regardless of etiology, spontaneous pseudoaneurysms are extremely rare, and only few cases have been described in literature. They require surgery; however, most patients can be safely discharged with close follow - up with a vascular surgeon. This case demonstrates a 35 - year - old female who presented with a non - tender, compressible, left - sided neck mass that enlarged with Valsalva, and intermittent paresthesias. Ultrasound confirmed a cystic mass of unknown etiology containing doppler flow suggesting the diagnosis of an external jugular vein pseudoaneurysm, confirmed by a CT angiography. The patient agreed for the surgery, and we agreed she was safe for discharge at that time and could follow up with vascular surgery as an outpatient. (1).

2. Case Report

A thirty five year old female presented with swelling over left sided neck region since several months which was associated with increasing swelling on valsalva, gradually progressive in nature, it was not associated with pain, fever, vomiting or any trauma.

On examination, patient was afebrile, with normal sinus rhythm pulse and no signs of pallor, cyanosis, icterus. Edema feet. Local examination shows globular shaped swelling of approx 5 cm x 4cm which appears on Valsalva and pressure effect and disappears on lying down. Laboratory investigation showed hemoglobin 12.5 mg/dl, Wbc count 7300 cells/mm³. Patient's liver function test, renal function test and urine reports were in normal range.

3. Investigation

The Patient had MDCT scan of Neck: -

- Approx **39x41x35 mm** size well defined homogeneously enhancing lesion noted in subcutaneous plane in lower

part of posterior triangle of neck on left side.

- The lesion abuts adjacent left sternocleidomastoid muscle and causes compression over left external jugular vein.
- On color doppler study the lesion shows **venous wave forms, respiratory phasic variation** and appears contiguous with lateral wall of adjacent left external jugular vein.

4. Conclusion

- Pseudoaneurysm of left external jugular vein origin in lower part of posterior triangle of neck on left side.

CT Images

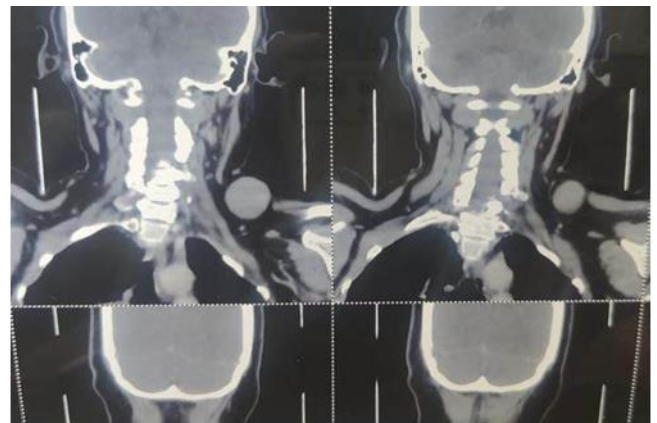


Figure 1:

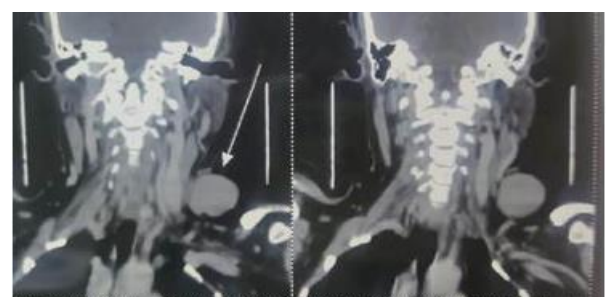


Figure 2:

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Figure 3: Normal position as well as lying down



Figure 4: On Valsalva Manuever

5. Surgical Technique

She was taken up for operative management after adequate preop workup. The patient was treated surgically under general anesthesia and was placed in supine position. And incision was placed over left supraclavicular region in posterior triangle of neck and a pseudoaneurysm of external jugular vein was identified and excision was done. Excised specimen was sent for histopathological examination (2).

Intra Operative Pictures



Figure 5

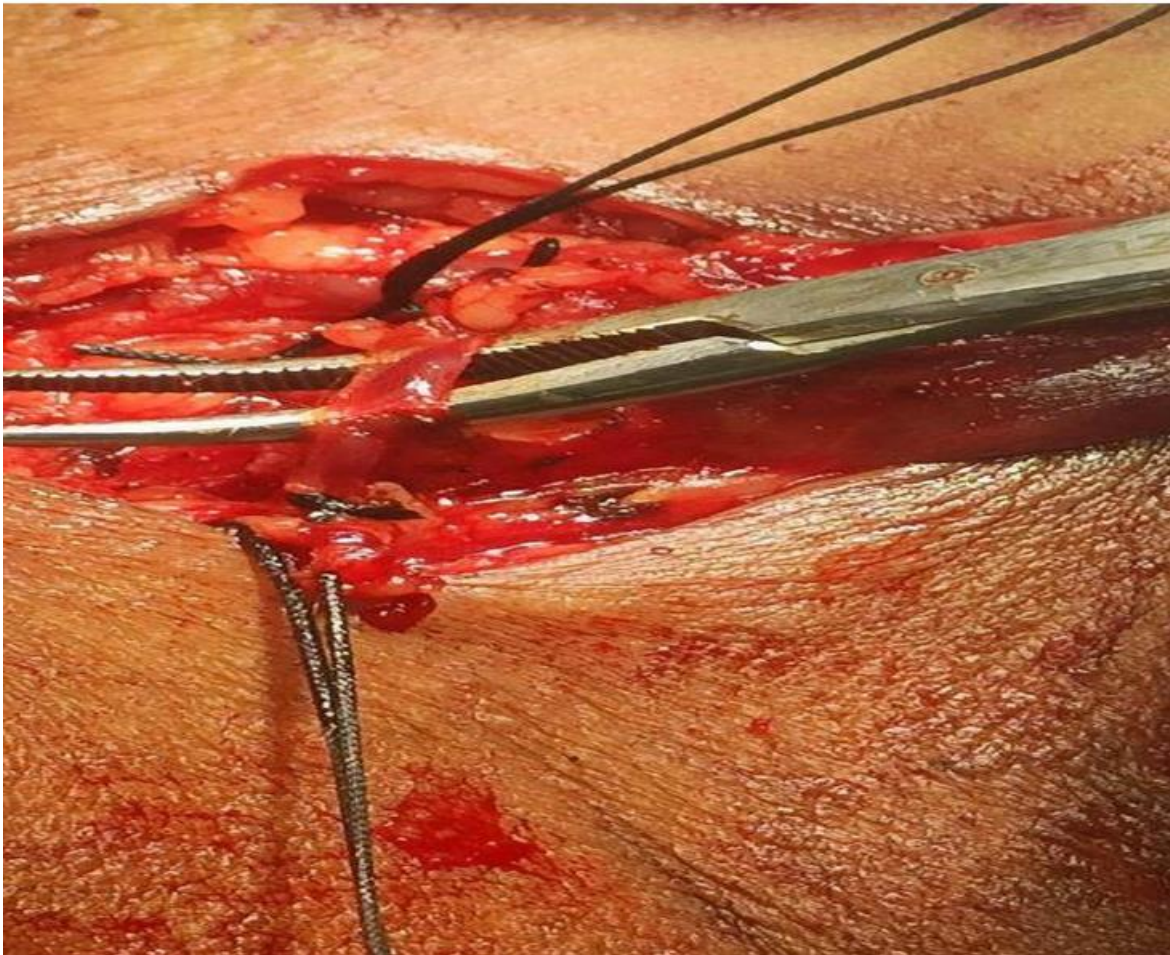


Figure 6

6. Discussion

The EJV is anatomically formed by the retromandibular vein and the posterior auricular vein. It passes under the sternocleidomastoid to eventually join the subclavian vein. Clinically, the superficial anatomic location of the external jugular vein predisposes it to traumatic and iatrogenic injury especially after use by central venous catheters. This is a major example of trauma to this low - pressure system leading to formation of EJV aneurysm (3).

The most typical presentation for aneurysm and pseudoaneurysm is a palpable, pulsatile mass that expands with valsalva. Pain, dysphagia, hoarseness, and neurological anomalies are some of the other symptoms.

Venous aneurysms are classified as primary (congenital) and secondary (acquired). Causes of primary venous aneurysms are not fully understood, while possible etiologies for secondary aneurysms within the venous system include thoracic outlet obstruction, trauma, chronic inflammation, degeneration, and increased venous pressure. Highest significant risk factors for secondary venous aneurysms include recent trauma, cardiovascular disease, and age (4).

Complications of jugular venous aneurysms and pseudoaneurysms are very rare, may include pulmonary embolism, thrombus formation or thrombophlebitis, rupture or compression of adjacent structures; and they are more likely if the patient complains of pain or tenderness. At the

time of this publication there were no reports in the literature of any of the above - mentioned complications from external jugular vein pseudoaneurysm. These complications are mostly seen in the lower extremities from popliteal and femoral aneurysms (5).

Venous aneurysms of the neck are often asymptomatic requiring no intervention and can be monitored. Approximately 89% of iatrogenic pseudoaneurysms will heal spontaneously without intervention. Surgical is recommended to manage large aneurysms compressing nearby structures, potential for thrombus, cosmetic reasons, or presence of symptoms.

Another alternative treatment is the use of the Ultrasound - guided compression of the pseudoaneurysm neck that will stop the blood flow, resulting in thrombosis within 40 - 45 minutes. For many years, ultrasound - guided compression of iatrogenic pseudoaneurysm was the principal alternative treatment method to surgery. However, percutaneous thrombin injection was described in 1997, and soon became accepted as the standard treatment for femoral artery pseudoaneurysms (6, 7).

7. Conclusion

Pseudoaneurysms of the external jugular vein are very uncommon entity with only few case reports published in the literature. This vascular anomaly is described as a pulseless mass that expands with valsalva and effort. In the

asymptomatic patient, no complications have been described in the literature, and no intervention is recommended. Patients who are asymptomatic can be safely discharged with an outpatient referral to surgery for aesthetic excision (8).

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