

Saccular Aneurysm of the Left External Jugular Vein: An Uncommon Presentation of a Cervical Mass

Benfaddoul O* and Michouar M

Department of Radiology, Private University Hospital of Marrakech, Private University of Marrakech, Morocco.

*Correspondence:

Benfaddoul O, Department of Radiology, Private University Hospital of Marrakech, Private university of Marrakech, Morocco

Received: 12 Jan 2026; Accepted: 21 Feb 2026; Published: 07 Mar 2026

Citation: Benfaddoul O, Michouar M. Saccular Aneurysm of the Left External Jugular Vein: An Uncommon Presentation of a Cervical Mass. Japanese J Med Res. 2026; 4(2): 1-4.

ABSTRACT

Venous aneurysms of the external jugular vein is a very rare vascular abnormality in relation to low blood pressure in the venous circulation, external jugular vein aneurysms are rarely reported in literature, and the exact incidence of such pathology remains unknown. In this case, we present a 63-year-old woman who presented with a lateral neck mass and in whom the diagnosis was determined by Color Doppler Ultrasound and CT angiography. The aim of this article is to report an additional case to the literature and to highlight pathogenesis, clinical and radiological findings, along with the potential treatment of this diagnosis.

Keywords

Cervical mass, External jugular vein aneurysm, Saccular aneurysm, Imaging assessment.

Introduction

External jugular vein aneurysm is a highly uncommon vascular anomaly of a principal superficial cervical vein defined by atypical dilation of the external jugular vein due to low pressure in the venous circulation, very few cases were reported in the literature and despite its infrequency, external jugular venous aneurysms warrant clinical consideration due to their potential clinical implication [1]. They may be incidentally detected presenting no symptoms and raise only cosmetic concerns or they may lead to major complications such as thrombosis causing embolic events or aneurysmal rupture [2]. Clinical examinations supported by imaging studies are sufficient for diagnosis. Careful physical evaluation of the compressible and pulsatile cervical lesion may raise suspicion of an aneurysm. Supplementary imaging is recommended using Color Doppler Ultrasound, CT and MR angiography, which provide detailed information and establish definitive diagnosis.

In this case, we present a 63-year-old woman with a medical history of hypertension and dyslipidemia, who presented with a

left lateral neck mass. The diagnosis of saccular external jugular vein aneurysm was confirmed using Color Doppler Ultrasound and CT angiography.

Case Report

We describe the case of a 63-year-old woman with a history of hypertension and dyslipidemia, who presented with a left lateral neck mass. The patient reported that the swelling had slowly increased in size over many years, with more noticeable growth during the past six months. She occasionally experienced mild discomfort, sometimes local pain, but no difficulty of swallowing, voice changes, or any prior trauma to the neck. She also had no history of previous surgery or other interventions in the region.

On examination, the mass was in the left anterolateral inferior aspect of the neck. It was soft, compressible, non-tender, and non-pulsatile. The overlying skin appeared normal. Color Doppler ultrasound of the neck showed a true lumen of the external jugular vein with a small defect of about 3,6 mm, corresponding to a saccular aneurysm. Flow within the aneurysm was bidirectional, producing the characteristic yin-yang appearance. A thrombus was also seen within the aneurysmal sac. No other venous connections were identified, and the right common carotid artery appeared normal in morphology and flow (Figure 1 and 2).

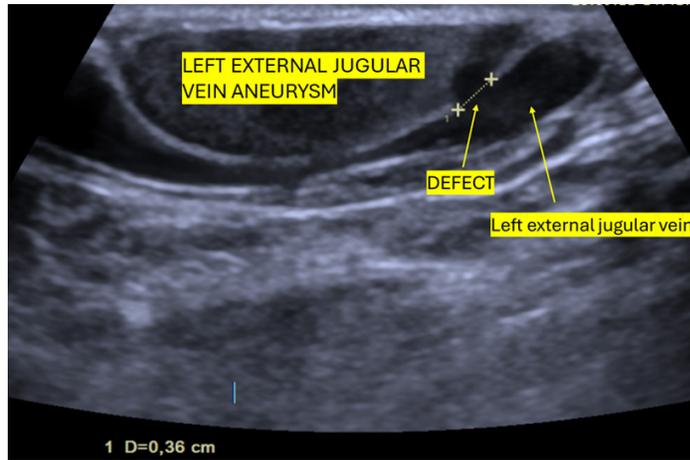


Figure 1: Color Doppler ultrasound showing the left external jugular vein saccular aneurysm.

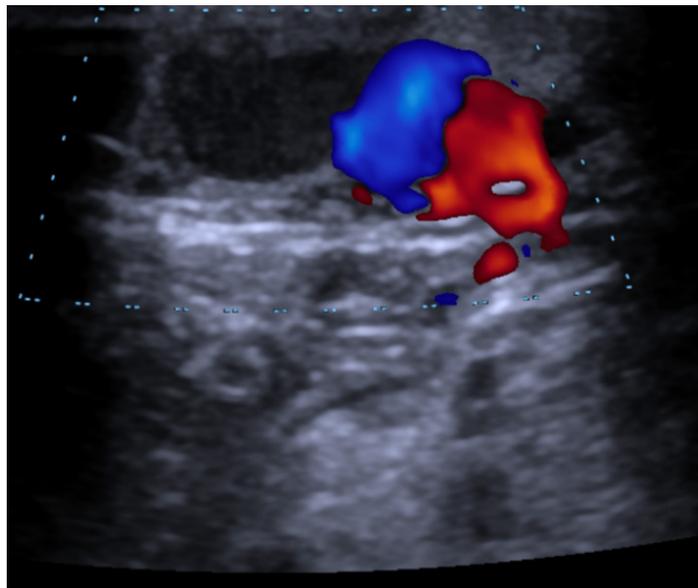


Figure 2: Yin-yang sign inside the left external jugular vein aneurysm.

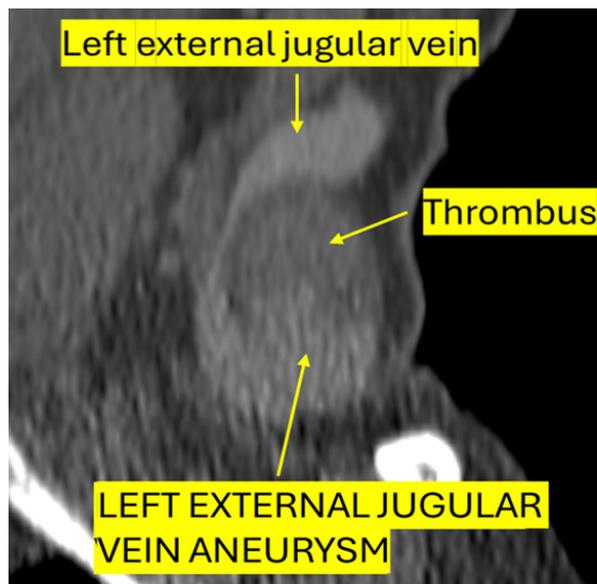


Figure 3: CT angiography showing a saccular aneurysm arising from the left external jugular vein (sagittal).

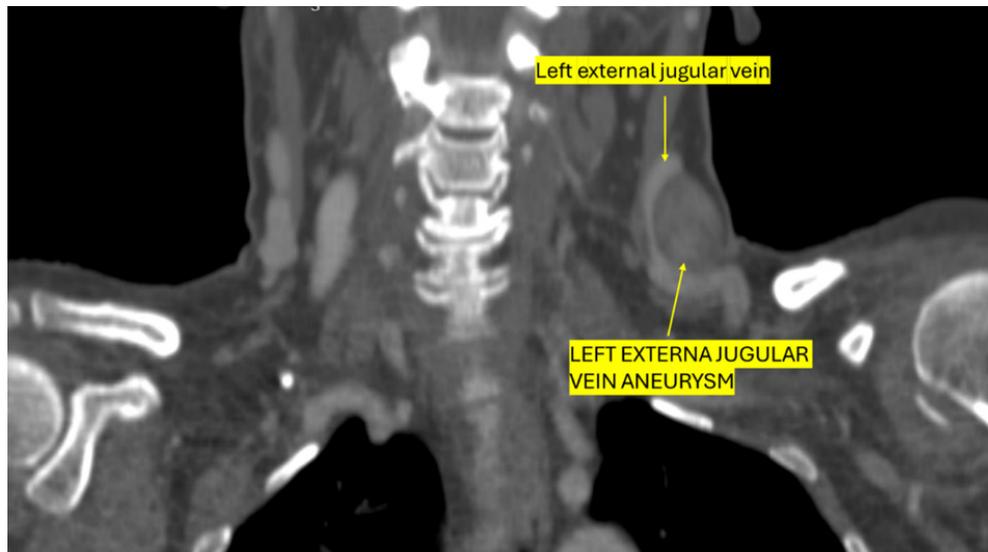


Figure 4: CT angiography showing a saccular aneurysm arising from the left external jugular vein (coronal).

CT angiography of the neck confirmed a saccular aneurysm arising from the lower lateral wall of the external jugular vein. An eccentric thrombus was seen along the superior portion of the aneurysm. No arterial feeders were identified, and all other arteries and veins appeared normal (Figure 3 and 4). These findings were consistent with a diagnosis of left external jugular vein aneurysm.

Discussion

Cervical venous aneurysms are considerably less common than arterial aneurysms owing to low intravascular pressure [3]. External jugular vein aneurysm can appear as fusiform or saccular in form and can be of primary (congenital) or secondary causes. Primary venous aneurysms are commonly diagnosed in childhood, they are usually fusiform and often localized in the right side of the neck which adds to rarity of our case, in these cases these lesions are true venous aneurysms and the lesions wall integrity stays preserved. In the other hand acquired aneurysms are usually saccular and generally present as soft, asymptomatic masses [4]. The general causes of secondary venous aneurysms may arise from degeneration, trauma, chronic inflammation, and increased pressure. Otherwise, intraluminal thrombosis within the aneurysm can lead to localized tenderness and compressive symptoms of the surrounding structures. In this case, the aneurysm was saccular and was presumed congenital as no secondary cause was documented; Features such as the presence of a defect in the lateral wall and intraluminal clot formation suggested the formation of pseudoaneurysm [5].

Clinically, external jugular vein aneurysms usually manifest as small, rounded, soft, and painless swellings in the neck that gradually increase in size over time. If the neck mass is unilateral, non-tender, and non-pulsatile, and enlarges during maneuvers that increase intrathoracic pressure such as sneezing, straining, or the Valsalva maneuver, a venous aneurysm should be considered in the differential diagnosis [6]. Differential diagnoses for lateral neck masses include tumors or cysts of the superior mediastinum,

external laryngeal diverticula, lung cupola herniation, and jugular vein aneurysms. Venous aneurysms are infrequently included in the differential for lateral neck masses, especially in the absence of a history of neck trauma. Differentiating external from internal jugular vein aneurysms based on clinical assessment alone is challenging [7].

For cervical lesions, ultrasound is generally the first-line imaging modality. Color Doppler ultrasound is regarded as the gold standard and is recommended as the initial technique to establish the diagnosis, as it can distinguish vascular from non-vascular causes. CT angiography provides precise information regarding the lesion's morphology, location, the presence or absence of thrombosis, and its relationship with surrounding vascular structures. Magnetic resonance angiography and venography may also be employed for diagnostic confirmation [8].

Expectant management is usually recommended for asymptomatic aneurysms, with periodic follow-up, as these lesions rarely cause complications such as rupture or mass effect. However, surgical or endovascular intervention is often considered for cosmetic or aesthetic reasons and can also prevent rare complications [9], including thrombosis, thrombophlebitis, pulmonary embolism, and rupture [10].

Conclusion

External jugular vein aneurysm should be considered in diagnosing slowly enlarging cervical masses. Color doppler Ultrasound is very useful in identifying the vascular origin of the lesion while CT and MR angiography, can confirm definitive diagnosis and help assist the appropriate management. Treatment options can be performed via minimally invasive vascular procedures and eventually surgical techniques and are recommended in symptomatic cases and aesthetic related purposes.

References

1. Mohanty D, Jain BK, Garg PK, et al. External jugular venous aneurysm: A clinical curiosity. *J Nat Sci Biol Med.* 2013; 4: 223-225.
2. Nakajima Y, Murata M, Shudo K, et al. External Jugular Venous Aneurysm: A Case Report. *Plast Reconstr Surg-Glob Open.* 2022; 10: e4617.
3. Verma RK, Kaushal D, Panda NK. External Jugular Vein Aneurysm with Thrombus Presenting as Painful Neck Mass: A Case Report. *Oman Med J.* 2013; 28: 278-280.
4. Kim SW, Chang JW, Lee S. Unusual Presentation of a Cervical Mass Revealed as External Jugular Venous Aneurysm. *Vasc Spec Int.* 2016; 32: 205-207.
5. Eleni E Drakonaki, Emmanouil K Symvoulakis, Anthoula Fachouridi, et al. External Jugular Vein Aneurysm Presenting as a Cervical Mass. *Int J Otolaryngol.* 2011: 2011: 485293.
6. Chapman DR, Ho RE, Gangemi A. A case report of a rare, spontaneous external jugular vein aneurysm. *Int J Surg Case Rep.* 2018; 52: 8-10.
7. Lucatelli P, Tommasino G, Guaccio G, et al. External Jugular Vein Spontaneous Aneurysm, Diagnosis, and Treatment with Video. *Ann Vasc Surg.* 2017; 41: 282.e11-282.e13.
8. Nucera M, Meuli L, Janka H, et al. Comprehensive review with pooled analysis on external and internal jugular vein aneurysm. *J Vasc Surg Venous Lymphat Disord.* 2022; 10: 778-785.
9. Rajadurai A, Aziz AA, Daud NAM, et al. Embolisation of External Jugular Vein Aneurysm: A Case Report. *Malays J Med Sci MJMS.* 2017; 24: 107-112.
10. Petroula Nana, Eleni Gkrinia, Chara Maiou, et al. Management of external jugular vein aneurysm: a systematic review. *Vascular.* 2021; 30: 590-595.