

## THROMBOSED EXTERNAL JUGULAR VEIN ANEURYSM: DIFFERENTIAL DIAGNOSIS OF A LATERAL NECK MASS

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### ABSTRACT

Venous aneurysms are rare, especially in the extern jugular vein. The key to the diagnosis is the Doppler ultrasonography, even though it could be difficult to establish especially if it is thrombosed, like it was the case for our patient. We report a case of a 60 year old patient who presented for a painless lateral cervical mass, laboratory test were non specific and the thrombosed extern jugular vein aneurysm was discovered during explorative surgery.

### KEYWORDS:

### INTRODUCTION

An aneurysm is a dilatation of at least one and a half of the vascular wall of a blood vessel. It can be saccular or fusiform.<sup>[1]</sup>

They occur because of a weakness of the vessel wall, that can be congenital or secondary to a traumatism, an inflammatory a degenerative disease or an external compression.

Venous aneurysms are relatively uncommon comparing to the arterial ones, especially in cervical location.<sup>[2]</sup>

The rareness of this pathology could makes the veinous aneurysms misdiagnosed and them therapeutical guidelines controverted, like it was the case for our patient.

### CASE REPORT

We report a case of a 60 years old male veteran, who presented at the Mohamed V Military Hospital of Instruction of Rabat for a five years left neck lump that increased volume two months prior. (Image A).

He reported no modification of the skin towards it, pain, compressive signs, fever, night sweats or weight loss.



Image A: Left neck lump.

The patient had no significant medical history, such a cardiovascular disease, diabetes, tuberculosis, tumoral pathology, inflammatory disease or any kind of neck surgery or traumatism.

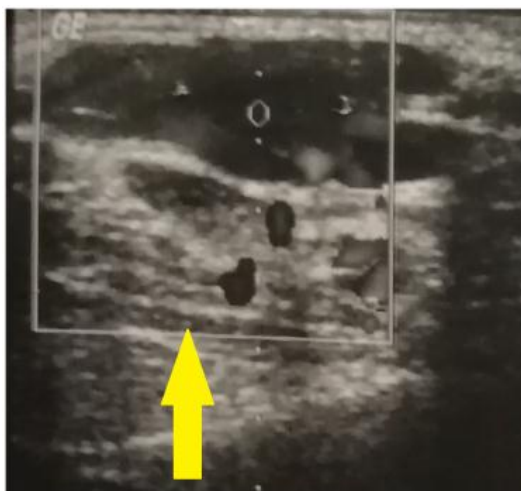
The clinical examination found a left supraclavicular round, compressible, nonpulsatil, well defined mass, measuring about 4cm that was not fixed to the skin or the underlying muscles. There was no thrill or modification at the Valsalva maneuver.

The examination of the neck found no lymphadenopathy or any other mass.

An endoscopic examination of the Oto-rhino-laryngological sphere was realized and nothing abnormal was found.

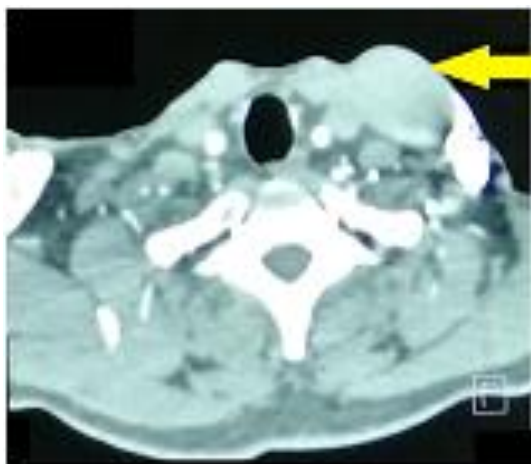
The rest of the physical examination was unremarkable.

A cervical ultrasound was performed that found a supra-clavicular hypoechoic mass of 22\*11mm with no Doppler flow. (Image B)



**Image B: Hypoechoic mass at ultrasonography.**

A contrast enhanced cervical computed angiography was ordered and revealed a left supra-clavicular tissular superficial well defined oval mass, limited between the sternocleidomastoid muscle in the outside the primitive carotid in the inside, that shows no continuity with the external jugular vein. (Image C)



**Image C: Transverse slice angioscanner showing a tissular well defined mass of the left supra clavicula fossa.**

We required a vascular surgery consultation that found no sign of vascular mass.

Due to the discordance in laboratory tests and the concern of the patient about the mass, a surgical exploration was offered.

Surgery was performed under general anesthesia, through a basicervical incision towards the lump. We discovered a superficial purple oval compressible mass in continuity with the external jugular vein, that was a thrombosed aneurysm (Image D).



**Image D: Thrombosed left external jugular vein aneurysm.**

Vascular clamps were applied above and under the aneurysm. After ligating the external jugular vein proximally and distally, excision of the thrombosed venous aneurysm was carried out (Image E).



**Image E: Excision of the aneurysm.**

After an uneventful postoperative course, the patient was discharged on the second postoperative day. He was seen on the follow-up two weeks later and reported that his condition has improved.

## DISCUSSION

Venous aneurysm was first described by Harris in 1928.<sup>[3]</sup>

Cervical location is rare,<sup>[4]</sup> they represent less than 13% of all the venous aneurysms location.<sup>[5,6]</sup>

They have been reported in internal, external, and anterior jugular veins,<sup>[7]</sup> but the most common site of aneurysm in the neck is the internal jugular vein (IJV).<sup>[8]</sup>

Color Doppler ultrasound is the method of choice to determine the nature of the tumor and differentiate dilation of the jugular vein from other vascular and non-vascular dilations and cystic neck malformations.<sup>[9]</sup>

It differentiate this kind of neck mass from the more common possibilities of lymph node enlargement, abscess, cystic hygroma, cavernous hemangioma, laryngocele,<sup>[10]</sup> branchial cysts,<sup>[11]</sup> carotid arteryaneurysm, and Interne jugular vein aneurysm.<sup>[10]</sup>

CT angiogram and MR angiography do represent second line investigations that may further and more accurately help to achieve the final diagnosis.<sup>[8]</sup>

Venous aneurysm can be congenital or acquired. Acquired causes include inflammation, trauma, venous valve insufficiency, tumors or arteriovenous fistula secondary to trauma. EJV aneurysms are clinically rare compared to IJV aneurysms. Recent trauma, cardiovascular disease and age are reported to be the highest significant clinical risk factors in the formation of JVA.<sup>[8,12]</sup>

Treatment should be conservative, surgery is advised if there is a risk of fracture,<sup>[9]</sup> or if there is a thrombosis that may cause venous thromboembolism in patients with phlebectasia.<sup>[12]</sup>

## CONCLUSION

Venous aneurysm in the neck is a rare condition. It typically presents as a round painless compressible mass, and it is often misdiagnosed.

Our case suggests that despite or the rarity of External Jugular Vein aneurysms, they should be included in the differential diagnoses of painless cystic masses of the lateral neck especially if located in supraclavicular fossa. Even if the key to the diagnosis is the ultrasonography, the lack of doppler flow should not eliminate the diagnosis because could be related to a thrombus.

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