

Case Report

**Saccular aneurysm of external jugular vein presenting as a cervical mass
An extremely rare condition.**

Dr Avinash P Mural

Dr. Avinash P. Mural, Consultant Radiologist Kasturi Diagnostics, Kandivali (W), Mumbai.

Corresponding Author: Dr Avinash P Mural

Abstract:

External Jugular vein aneurysms are rare cause of cystic neck swellings. The differential diagnosis of these masses includes pathologies such as arteriovenous malformation, retention cysts thyroglossal cysts, pharyngocele, cystic hygroma, laryngocele and inflation of cupola of lung and Jugular venous aneurysm. Venous aneurysms are more likely in patients presenting with painless slowly enlarging cystic neck mass particularly if it is seen to be becoming prominent on Valsalva maneuver, during coughing on straining. Although multidetector computed tomography (MDCT) angiography or selective venography allows for accurate diagnosis, ultrasonography (US) with colour Doppler imaging is the gold standard for the diagnosis of such aneurysms. It is particularly important in developing countries including in India where MDCT may not be available everywhere. We report here a case of 62-year-old woman with a saccular aneurysm of the external jugular vein which presented as painless slowly enlarging swelling in neck and was diagnosed on Ultrasound and Doppler Study.

Keywords: External Jugular Vein Aneurysm, Ultrasound, Doppler, Spectral Doppler.

Introduction:

It is rare to come across venous aneurysm in routine radiology practice, however this diagnosis must be kept in mind while dealing with any patient having history of slowly enlarging cystic swelling particularly if found adjacent to anatomical site of major veins.¹ Venous aneurysms presenting as cystic neck mass can be a rare occurrence. One of the differential diagnosis in this setting can be external jugular vein aneurysm. External jugular vein aneurysm usually presents as painless, slowly progressive, cystic neck mass. In some

cases, it may present with pain and tenderness.² The diagnosis is usually suspected on clinical examination. The confirmation of diagnosis requires imaging in the form of ultrasound with color Doppler and further imaging such as Computerized tomography and MR imaging is usually not required.³

Venous aneurysm is further divided into fusiform (bulging from all sides of venous wall) or saccular (bulging from one side of venous wall) The most common site for venous aneurysm in neck is internal jugular vein.⁴ The pseudoaneurysm as name itself

implies is not a true aneurysm but is actually the result of previous surgery or prior venous catheterization. External jugular vein is uncommonly involved. Saccular aneurysms of external jugular vein are extremely uncommon as compared to fusiform aneurysms.⁵ We report here a case of 62-year-old woman with a saccular aneurysm of the external jugular vein which presented as painless slowly enlarging swelling in neck and was diagnosed on Ultrasound and Doppler Study.

Case Report:

A 62-year-old woman was referred to us with history of Painless swelling over right side of neck which had been enlarging progressively over a period of few months. swelling became prominent on Valsalva maneuver. On Clinical Examination There was a localized cystic mass lesion (largest dimension of approx. 3.5 x 1.5 x 2.3 cms on Valsalva) seen on right side, anterolateral to right sternocleidomastoid muscle in mid neck level. This cystic lesion increased in size with Valsalva maneuver and was completely compressible.



Figure 1: Painless swelling on right side of neck anterolateral to right sternocleidomastoid muscle in mid neck level.

On ultrasound examination a hypoechoic lesion was found which exhibited slow internal flow in B- mode. This lesion was found to be communicating with a short neck with the adjacent external jugular vein



Figure 2: - Cystic lesion communicating with a short neck with the adjacent external jugular vein.

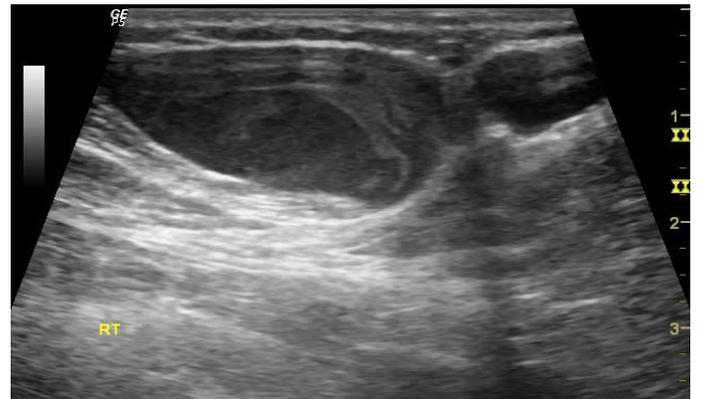


Figure 3: - The lesion exhibited slow internal flow in B- mode.

On Doppler examination aliasing flow was demonstrated.

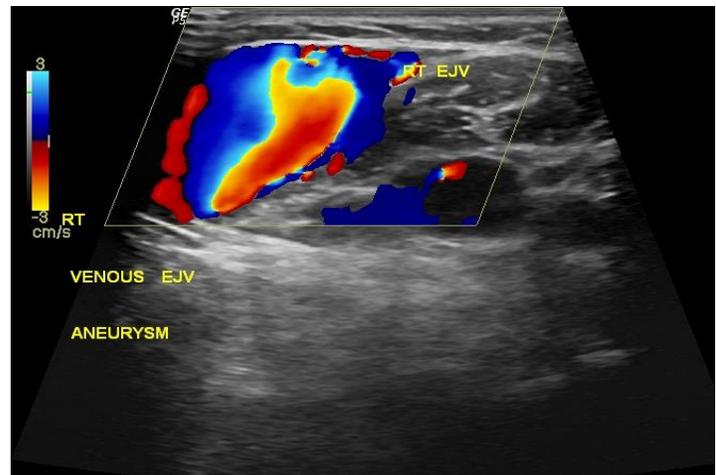


Figure 4: - Aliasing Flow on Doppler Examination.

The spectral Doppler analysis showed venous waveform. Right internal jugular vein was found to have normal flow and respiratory variation.

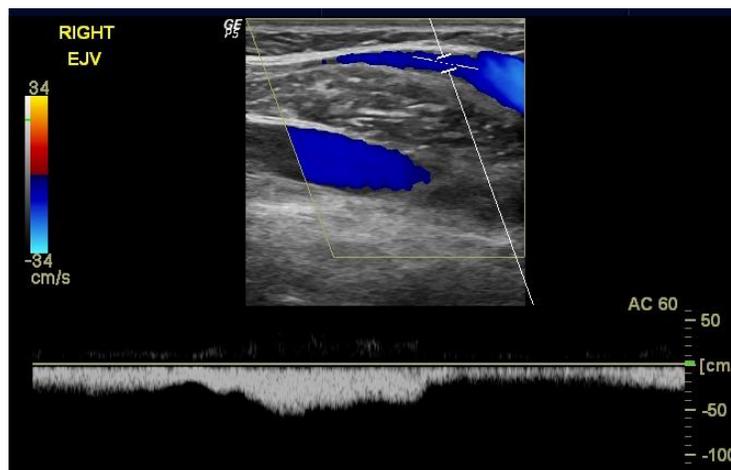


Figure 5: Spectral Doppler showing respiratory variations.

Discussion:

The differential diagnosis of cystic swelling in neck is vast and may include pathologies such as arteriovenous malformation, retention cysts thyroglossal cysts, pharyngocele, cystic hygroma, laryngocele and inflation of cupola of lung and Jugular venous aneurysm.⁶ Clinical examination along with ultrasound imaging can diagnose these lesions in most of the cases. Jugular venous aneurysms are uncommon cause of cystic swelling. They may be seen secondary to neoplastic pathologies, infections or secondary to trauma.⁷ Previous venous catheterization is one of the important causes of these aneurysm and its incidence is increasing because of increases intensive care. In a small number of cases no etiological factor can be found and these aneurysms may present with no antecedent history of catheterization.⁸

These aneurysms can be divided into pharyngeal fusiform (bulging from all sides of venous wall) or saccular (bulging from one side of venous wall) aneurysms on the basis of their morphology. Aneurysms of external jugular usually remain

asymptomatic and may present as painless slowly enlarging mass lesion on lateral side of neck. One of the characteristic finding which may point towards the possibility of swelling being venous aneurysm is that they become more prominent while coughing, straining or during Valsalva manuevere on clinical examination.⁹

The diagnosis of external jugular venous aneurysms can be reliably made on the basis of ultrasound with Doppler scanning. Presence of cystic lesion with internal flow in B-Mode which is seen communicating with adjacent external jugular vein with a short neck is diagnostic of jugular venous aneurysm. On Doppler imaging aliasing flow is seen and venous spectral waveform confirms the diagnosis. Doppler examination will easily differentiate venous aneurysms from traumatic arteriovenous fistula and arterial pseudoaneurysms on the basis of spectral Doppler which in later cases will show characteristic arterial waveforms.¹⁰

Thus, Venous aneurysms must be kept in differential diagnosis of any patient presenting with painless slowly enlarging cystic neck mass particularly if it is seen to be becoming prominent on Valsalva maneuver, during coughing on straining. Although multidetector computed tomography (MDCT) angiography or selective venography allows for accurate diagnosis, ultrasonography (US) with colour Doppler imaging is the gold standard for the diagnosis of such aneurysms.

Conclusion:

Aneurysms of external jugular vein are a rare entity but must be kept in mind in patient presenting with painless slowly enlarging cystic neck mass particularly if it is seen to be becoming prominent on Valsalva maneuver, during coughing on straining. ultrasonography (US) with colour Doppler imaging is the gold standard for the diagnosis of such aneurysms.

Conflict Of Interest : None.

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