Aneurysm of External Jugular Vein Mimicking Hemangioma of Neck

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Abstract Venous aneurysms are one of the rare causes of neck swellings. Among neck veins, external jugular vein aneurysms are uncommon. We present a case of a woman who presented with a nontender compressible swelling in the left lower neck region, which initially thought to be hemangioma, was later found to be external jugular vein aneurysm on Doppler ultrasound and CT angiography.

Keywords Venous aneurysm · External jugular vein · Neck swelling · MDCT · Angiography

Introduction

Venous aneurysms are rare when compared to arterial ones [1]. The commonest site of venous aneurysm in the neck is internal jugular vein [2]. Saccular venous aneurysm of the external jugular vein is a very rare entity, and only a few cases have been reported in the English literature [3]. We report a case of a 38-year-old woman with a saccular aneurysm of the left external jugular vein diagnosed by Color Doppler and confirmed by multidetector computed tomography (MDCT) angiography which was clinically thought to be hemangioma.

Case Report

A 38-year-old woman presented to the surgeon with a painless swelling in the lower part of the left side of neck for the past 2 months. The patient did not give any history of

trauma or prior intravenous intervention in this area. Physical examination revealed nontender soft swelling at the lateral border of lower part of the left sternomastoid muscle. The swelling was compressible and the overlying skin showed no signs of inflammation or discoloration. Initially, a clinical diagnosis of hemangioma was made. Blood investigations were unremarkable.

Ultrasound examination revealed a 2.5 cm × 3 cm clear cystic compressible lesion. The lesion showed internal color flow and appeared to communicate with the adjacent left external jugular vein. Spectral Doppler analysis of the lesion showed the venous waveform. Since these findings were suggestive of saccular venous aneurysms of the left external jugular vein, MDCT angiography was suggested to confirm the diagnosis.

Dynamic MDCT angiography showed presence of a homogeneously enhancing lesion in venous and delayed phase which was communicating directly with lower part of the left external jugular vein through a narrow neck (Figs. 1 and 2), thereby confirming saccular venous aneurysm of left external jugular vein.

The patient was subsequently operated and the venous aneurysm was removed after ligating the neck of the aneurysm. Intra-operative findings exactly correlated with MDCT angiography findings.

Discussion

Venous aneurysm is fusiform or saccular dilatation of a vein. It can be primary (congenital) or acquired [4]. Primary venous aneurysms are true venous aneurysms as they contain intact venous wall and are usually fusiform or localized dilatation of a vein [5]. Acquired aneurysms of the venous system are formed due to changes in blood flow and blood pressure. They are caused by several factors such as inflammation, trauma, venous valve insufficiency, tumors, or by an

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Fig. 1 Axial (a) and coronal (b) MDCT image of the neck showing saccular venous aneurysm arising from lower part of lateral wall of the left external jugular vein (white arrows)

arteriovenous fistula, which is due to an increase in the venous blood flow [3]. Sometimes they can appear spontaneously where no etiologic cause can be identified like in our case [3]. Acquired venous aneurysms are normally saccular.

Superficial venous aneurysms of the neck are a rare entity with only a very few reported cases of external jugular venous aneurysms in the English literature [3]. Superficial venous aneurysm of the neck can be mistaken for lymph node enlargement and a variety of cystic swellings such as lymphocele, cystic hygroma, cavernous hemangioma, laryngocele or with arterial aneurysm [6].

Fig. 2 Volume rendered technique (VRT) image showing saccular venous aneurysm of the left external jugular vein pointing laterally (white arrow)

Complications of superficial venous aneurysms include thrombosis, rupture, thrombophlebitis, and pulmonary embolism although these are very rare [7]. Radial nerve compression by cephalic venous aneurysm has also been described in one case report [8].

Ultrasonography is the first imaging technique performed because it is noninvasive and can differentiate vascular from nonvascular cause of neck swelling. Computed tomography and magnetic resonance imaging (MRI) can more accurately demonstrate the size and extent of the aneurysm [6]. The indications for surgery include the presence of symptoms, potential thrombus formation, and more commonly a cosmetic problem [6].

In conclusion, acquired venous aneurysm of the external jugular vein is rare and can present spontaneously as in our case. Ultrasound can be an effective imaging modality in diagnosis of these venous aneurysms, and MDCT angiography and magnetic resonance imaging, if available, can accurately confirm the diagnosis. Superficial venous aneurysms of the neck can be confused for a variety of neck masses; hence, prior to any surgical intervention or biopsy, ultrasound should be done to avoid unnecessary complications.

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