Unusual Presentation of a Cervical Mass Revealed as External Jugular Venous Aneurysm

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INTRODUCTION

Venous aneurysm is a term describing an isolated saccular or fusiform dilatation of a vein. Other terms have also been used in the literature including phlebectasia, venous cyst, venous ectasia, aneurysmal varix, and venectasia [1]. Venous aneurysms are a rare condition that was first described by Harris in 1928 [2]. Venous aneurysms are not related to gender and may occur at any age [3]. They can affect any vein, including cervical, thoracic, visceral, and extremity regions. Among them, venous aneurysms of the neck are an uncommon clinical anomaly because the cervical venous system is related with a low pressure in the vena cava. We experienced a rare disease of neck vein aneurysm and report a case of surgical resection.

CASE

A 46-year-old woman presented to the emergency department with a painless mass in the left neck region, which had suddenly appeared on the same day without any previous cervical trauma. On physical examination, there was a soft, non-tender, non-pulsatile, and fluctuant swelling mass in the left neck region (Fig. 1A). The mass was well-circumscribed and approximately 2.5 cm in diameter. The lesion was significantly enlarged with Valsalva maneuver and became prominent when the patient's neck was flexed. The skin overlying the swelling had no signs of inflammation, erythema or thickening. No other palpable masses or enlarged lymph nodes were detected in the rest of the neck. The patient had no underlying disease and no past history of deep venous thrombosis, local trauma or venous catheterization. A computed tomography angiography revealed a 1.6×2.1 cm sized venous aneurysm with intraluminal thrombus (Fig. 1B). The aneurysm was derived from the left external jugular vein. The right external jugular vein and bilateral internal jugular veins were normal.

Low molecular weight heparin was injected subcutaneously for 5 days, and surgical treatment was planned.
abnormal swelling of the skin. While venous aneurysms of the neck commonly involve the internal jugular vein, venous aneurysms of external jugular vein are very rare with only one case reported in Korea. Lee et al. [4] reported a saccular aneurysm of the external jugular vein.

Venous aneurysms can be classified as primary or acquired lesions. Primary venous aneurysms are true venous aneurysms as the venous wall is intact and are usually fusiform in shape. Fusiform venous aneurysms with congenital etiology are frequently diagnosed in childhood, but may appear in adults. They usually occur on one side of neck as in our patient but may be bilateral [5]. The pathogenesis of primary venous aneurysms is unknown. The most accepted theory is a focal loss of normal connective tissue components of the vein wall. This could be due to a congenital underdevelopment or to a degenerative loss of the connective tissue with aging. Acquired aneurysms of the venous system are usually saccular and result from changes in blood flow and blood pressure. Common etiologic factors are tumor, inflammation, thoracic outlet syndrome, or trauma. They can be the result of iatrogenic procedures like venous catheterization [6]. In the clinical setting, venous aneurysms are rarely diagnosed, especially when the patient has no history of neck trauma.

While serious complications of this condition are rare, it can result in thrombus formation within the aneurysm, pulmonary thromboembolism, thrombophlebitis, and aneurysmal rupture secondary to trauma [7]. Ioannou et al. [8] reported a case of an external jugular vein aneurysm with thrombosis causing undetected pulmonary embolisms. They recommended mandatory surgical resection of jugular vein aneurysms to prevent thromboembolic complications.

In conclusion, surgical resection is required for venous aneurysms that progressively enlarge or contain thrombus, because of the risk of thrombosis and subsequent pulmonary embolism.

Fig. 1. A patient presented with a painless swelling mass on the left neck (A) and an axial view of enhanced cervical computed tomography angiography scan shows a left external jugular vein aneurysm with intraluminal thrombus (white arrow, B).

Fig. 2. Intraoperative view of the dilated fusiform aneurysm of the left external jugular vein.

to prevent recurrent thrombosis and thromboembolism to the innominate vein and pulmonary arteries. The surgery was performed under general anesthesia in the supine position. An oblique incision on the left neck was made along the skin crease. A dilated vascular lesion arising from the external jugular vein was identified. The lesion was dissected freely and appeared as a dilated fusiform aneurysm of the vein itself (Fig. 2). The proximal and distal ends of the aneurysm were clearly demarcated and ligated, and subsequently, the aneurysm was completely excised. It was not necessary to reestablish venous continuity of the left external jugular vein. The patient was discharged 2 days after the surgery without any complications. In the follow up period the patient had no other local or general events. Pathologic report after the operation described a decrease in fibrous connective tissue and elastic fibers.

DISCUSSION

Aneurysms of the neck vein usually have a benign clinical course, such as a painless mass that increases in size on Valsalva maneuver. They may be seen in either the internal or external jugular veins, and appear as an
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