Resection of right external jugular vein aneurysm

Ressecção de aneurisma venoso em veia jugular externa direita

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Abstract

Venous aneurysms are rare entities usually found at physical examination or imaging exams. Their rarity justifies the need for investigation and publication of case reports, the objective of the present report. We report the case of a 43-year old female with a six-month history of an asymptomatic enlarging mass in the neck. She underwent cervicotomy, resection of the mass and right external jugular vein ligation, under general anesthesia. A literature review shows that venous aneurysms can cause thrombophlebitis and pulmonary embolism or undergo spontaneous rupture. Prophylactic surgical treatment is recommended for low-risk patients with venous aneurysms of the abdomen and strongly recommended for most patients with lower extremity deep venous aneurysms. Other venous aneurysms should be excised only if they are symptomatic, enlarging or disfiguring.

Keywords: Aneurysm; neck dissection; ligation.

Introduction

Vein aneurysms are rare, develop in people of any age group and both sexes, and may affect any vein. Although several hypotheses have been proposed, their etiology remains uncertain. Due to their rarity, venous aneurysms are sporadically described in the world literature. In three literature reviews, 147 cases were reported by Calligaro et al., 311 by Schild et al., and 39 by Gillespie et al. Although CT scan, phlebography and magnetic resonance imaging help in diagnosis, the gold-standard method is color-assisted duplex ultrasound.

Case report

A 43-year-old female patient presented with a history of an asymptomatic bulge (Figure 1) in the anterior cervical region that had been developing for six months (Figure 2). The only associated disease was asthma.

Doppler venous ultrasound showed an anechoic compressible image of 1.81 x 1.62 cm in diameter with variable flow, compatible with external jugular vein aneurysm. Surgical treatment was indicated and preoperative examinations were performed. The exams showed normal CBC: erythrocyte count was 4.8 million; hemoglobin was 13.4 g/dL; hematocrit was 40%; total cholesterol was 160 mg/dL; triglycerides 58 mg/dL, creatinine 0.57 mg/dL; glucose 92 mg/dL; platelet count 243,000; prothrombin time (PT) 14 seconds, bleeding time 1’05” minutes; activated partial thromboplastin time (aPTT) 30 seconds.

The patient underwent anterior cervicotomy under general anesthesia (Figures 3 and 4) and aneurysm resection (Figure 5) with external jugular vein ligation (Figure 6).
Figure 1 – Subcutaneous mass on right side of the neck.

Figure 2 – Subcutaneous mass on right side of the neck.

Figure 3 – Resection of jugular vein aneurysm.

Figure 4 – Resection of jugular vein aneurysm.

Figure 5 – Resected vein aneurysm.

Figure 6 – Ligation of the aneurysm proximal and distal stumps.
was discharged on the second postoperative day in good condition (Figures 7 and 8).

Treatment

Depending on the location of the aneurysm, the treatment may be conservative – with observation of its development – or surgical\(^1\). One of the surgical options for a venous aneurysm is ligation of proximal and distal veins\(^10\).

Discussion

The first case description of a vein aneurysm was made by Osler, in 1913, regarding an axillary vein dilatation associated with an axillary artery aneurysm\(^11\). Schild et al. reviewed 311 cases of jugular vein aneurysms reported from 1939 to 1992: most of them were in the internal jugular vein. It justifies the need for case reports regarding vein aneurysms, especially those of the external jugular vein.

Venous aneurysm may develop anywhere in the vascular system of newborns, children, adolescents, adults and the elderly\(^2,12^-14\). They may be fusiform and saccular; such distinction is important for surgical strategy\(^3\).

External jugular vein aneurysms may be diagnosed at physical examination as a bulge or a compressible mass in the neck. Doppler ultrasound is a accurate imaging method to confirm the clinical diagnosis\(^15^-17\).

Venous aneurysms are rare but should not be ignored. The patients have high risk of morbidity and mortality due to rupture and hemorrhage, venous thrombosis and pulmonary embolism\(^18\).

There are different types of vein aneurysms. Primary venous aneurysm is defined as a localized dilatation that communicates with a venous structure through one channel, and must not be associated with arterial-venous fistula or with an arterial aneurysm. Secondary or acquired venous aneurysm is usually found in adults and associated with trauma, arteriovenous fistula or venous hemodynamic alterations\(^19\).

A congenital venous aneurysm is an anomaly of the vein wall development that results from smooth muscle hypoplasia, leading to a deficiency in the elasticity of the wall\(^19\). The etiology of the aneurism has been described as degeneration in the vein wall that causes thinning of its elastic and muscle layers. Prolonged mechanical stress on the vein wall is another physiopathological mechanism\(^4\).

Ilijevski et al.\(^20\), in their anatomopathological study of a venous aneurysm, showed all layers and the endothelial continuity of normal veins to be normal, with proliferation of fibroblasts in the muscle layers of the venous wall. Those findings deserve further study.

Conclusion

External jugular vein aneurysms are rare anomalies that manifest as soft and compressible bulge in the neck\(^21\). Unlike arterial aneurysms, that have been exausitively studied and reported in literature, venous aneurysms are very rare in medical practice. Therefore, all new cases should be reported for publication\(^22^-23\).

The clinical diagnosis of venous aneurysms is made by anamnesis and physical examination, and confirmed by color.
Doppler ultrasound\textsuperscript{20}. Phlebography, CT scan and magnetic resonance imaging may also be helpful diagnostic methods\textsuperscript{9,17}.

Although venous aneurysm cases are considered to be relatively simple, surgical treatment is indicated in most cases, especially when they are asymptomatic, disfiguring or have progressive enlargement.

References


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