Multiple basilic vein aneurysms concomitant with multiple hemangiomas of the upper extremity: A case report

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Basilic vein aneurysms are rare clinical entities. A 21-year-old woman with basilic vein aneurysms and multiple hemangiomas in the

right upper extremity is presented. The case is discussed in light of the relevant literature with emphasis on the use of Doppler ultrasonography and magnetic resonance venography.

Key Words: *Aneurysm; Basilic vein; Doppler ultrasonography; Hemangioma; Magnetic resonance venography*

Upper extremity venous aneurysms are rare clinical entities. Unlike arterial aneurysms, venous aneurysms are much less frequently reported, and most of the cases are aneurysms seen after arteriovenous fistulas. Venous aneurysms of the wrist and hand have also been previously reported (1-4).

In the present report, we describe the case of a 21-year-old woman with basilic vein aneurysms and multiple hemangiomas in the right upper extremity, and discuss the use of Doppler ultrasonography and magnetic resonance (MR) venography.

CASE PRESENTATION

A 21-year-old woman was referred to the Dumlupinar University Hospital (Kutahya, Turkey) for a painful mass she had since birth in her right upper arm. Her medical history was otherwise unremarkable. On inspection, basilic vein dilation in the right antecubital fossa, and cavernous hemangioma in the forearm and right upper extremity were observed. The rest of the physical examination was noncontributory. Laboratory tests including complete blood count, erythrocyte sedimentation rate, and liver and renal function tests were normal.

Spleen, hepatobiliary and genitourinary ultrasound examinations were normal. Doppler echocardiography did not reveal a specific cardiac and/or major vascular disease.

Upper extremity colour Doppler examinations revealed dilations of the basilic vein in the antecubital fossa and right thenar hemangiomas (Figures 1 and 2).

Lower extremity Doppler examinations were normal. The basilic vein aneurysms were also confirmed with MR venography. Following conventional MR imaging, MR venography was performed after injecting 15 mL of a paramagnetic contrast media, gadopentetate dimeglumine (Magnevist; Bayer Schering Pharma AG, Germany), intravenously in the dorsum of the hand. Subcutaneous lesions with intensity properties consistent with cavernous hemangiomas were seen, especially on the medial side of the forearm (Figure 3).

MR venography showed multiple saccular and fusiform aneurysms in the basilic vein trace, beginning from the distal one-half of the upper right arm and extending through the right wrist (Figure 4).

Because the patient did not want to have an operation, surgery was not planned. She had only minor pain, and 500 mg acetaminophen orally three times a day was sufficient for pain control.

DISCUSSION

Venous aneurysm of the upper extremity, especially basilic vein aneurysm, is a rare clinical entity. The most common sites for venous aneurysms are the internal jugular vein, popliteal vein, superior vena cava and portal vein (5,6). Only a limited number of cases with venous aneurysms in the upper extremity have been reported (1-4,7). Katsoulis et al (8) reported a 71-year-old woman with a primary aneurysm of the basilic vein. De Waele et al (9) reported a large venous aneurysm in the upper extremity of a 71-year-old man who had presented with acute thrombosis of the aneurysm, which could only have been diagnosed during surgery. Calligaro et al (6) reported five cases of venous aneurysms in the jugular (n=4) and basilic (n=1) veins. Multiple venous aneurysms of the basilic vein were reported only by Uematsu et al (10), in a 61-year-old woman who presented with a left arm mass. Therefore, to the best of our knowledge, the present case is the second case of multiple basilic vein aneurysms reported in the literature. Furthermore, it is the first report of multiple venous aneurysms of the basilic vein concomitant with upper extremity hemangiomas.

The etiology of venous aneurysms remains unknown. They are generally advocated to be the processes of endophlebohypertrophy and endophleboscrosis in areas of physical stress (5). The process of endophlebohypertrophy begins at birth; localized blood flow disturbance is the leading mechanical factor (7). Congenital weakness and degenerative changes in the aneurysmatic vein were also reported to be a possible cause of the

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Figure 1) As seen in this gray scale study, venous aneurysms originate from the basilic vein at the distal posterior portion of the forearm

Figure 2) The aneurysm in the distal posterior portion of the forearm shows a slow flow pattern on Doppler ultrasonography

development of venous aneurysms. Complete absence of the medial smooth muscle layer, and the absence of media and adventia in jugular venous aneurysms have been reported. These data suggest a congenital focal defect in the media during the venous wall formation period (11,12).

The primary radiological modality for demonstrating venous aneurysms is Doppler ultrasonography. It is inexpensive and easy to perform. In our case, aneurysms were diagnosed by Doppler ultrasonography, which also showed multiple hemangiomas. In recent years, MR angiography and MR venography became a popular and important tool for investigating vascular lesions of extremities. It seems possible that MR angiography and MR venography will replace diagnostic digital subtraction angiography in the future because they are noninvasive and have no complications. In our case, because Doppler and MR venography findings were similar and vascular surgery was not planned, digital subtraction angiography was not performed. Of note, prophylactic surgery is cautiously 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 (6).

Figure 3) The hyperintense hemangioma is visualized around the antecubital fossa (arrow) in T2-weighted magnetic resonance imaging

Figure 4) The aneurysms originated from the basilic vein at the distal posterior portion of the forearm, seen on the sagittal plane in magnetic resonance venography

CONCLUSION

In presenting this rare case, we draw the attention of clinicians to the concomitance of basilic vein aneurysms and upper extremity hemangiomas. We advocate the use of Doppler and MR angiography for the diagnosis and follow-up of these patients, unless surgery is considered necessary.

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