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# Greater Saphenous Vein Aneurysm: Case Report

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**Abstract**

**BACKGROUND:** Venous aneurysms are rare vascular pathology. They were first described by Sir Wiliam Osler in 1915 and thereafter Harris in 1928. Aneurysm on greater saphenous vein is mostly asymptomatic or they are responsible for no more than local discomfort, pain, and tenderness and it is detected when patients were referred for the treatment or evaluation of a femoral or inguinal hernia or soft-tissue masses.

**CASE PRESENTATION:** We presented a case of a 64-year-old man admitted to the hospital for elective surgical treatment of greater saphenous vein aneurysm. Computed tomography angiography showed an aneurysmatic change on the saphenous vein on the right lower leg with dimension of aneurismae 41 × 40 × 39 mm. After the diagnostic examination was finish, there was an indication for surgical treatment. The patient was successfully operated with non-postoperative complications.

**CONCLUSION:** The indications for surgical treatment in superficial venous aneurysms are the presence of symptoms, the risk of thrombosis, compression of nearby structures, and more commonly esthetic problems. Surgical treatment is the treatment of choice for reducing the symptoms, risk of thrombosis, and esthetic problems and it has excellent results if there are not any other vascular pathologies.

## Introduction

Venous aneurysms are rare vascular pathology. They were first described by Sir Wiliam Osler in 1915 and thereafter Harris in 1928. Venous aneurysms are usually located in the lower extremities and can be deep or superficial, depending on whether the affected vein is over or under the muscle fascia [1], [2], [3]. Saphena vein aneurysm is the second most common affected vessel. Aneurysm on greater saphenous vein is mostly asymptomatic or they are responsible for no more than local discomfort, pain, and tenderness and it is detected when patients were referred for the treatment or evaluation of a femoral or inguinal hernia or soft-tissue masses [4], [5], [6].

Saphenous vein aneurysm usually occurs as soft, painless masses in the thigh or calf and is also very common the association with varicose veins [7]. They can be also associated with trauma, congenital weakness, or degenerative changes in the venous wall resulting from a connective tissue disorder or local inflammatory process, and cardiovascular abnormalities producing increased venous pressure should be considered a possible cause of venous aneurysm [8].

## Case Report

A 64-year-old patient was admitted to the hospital by the vascular surgeon for elective surgical treatment on saphenous vein aneurysm on the right lower extremity with symptoms of local discomfort and small pain. He was examined by the plastic surgeon and vascular surgeon. Before admitting to the hospital, diagnostic procedures were made such as magnetic resonance imaging and ultrasound examination which showed saphenous vein aneurysm on the right lower extremity.

Echocardiography showed normal ejection fraction, normal heart dimension, and no kinetic wall changes. During the hospitalization, we made computed tomography (CT) angiography on the lower extremities of the patient. CT angiography showed an aneurysmatic change on the saphenous vein on the right lower leg with a dimension of aneurismae 41 × 40 × 39 mm (Figures 1 and 2).

Laboratory analysis which was made showed blood levels of glucose 7.58 mmoL/l, with normal other laboratory parameters. Hemostasis was also normal. After the diagnostic examination was finish, there was an indication for surgical treatment. The patient

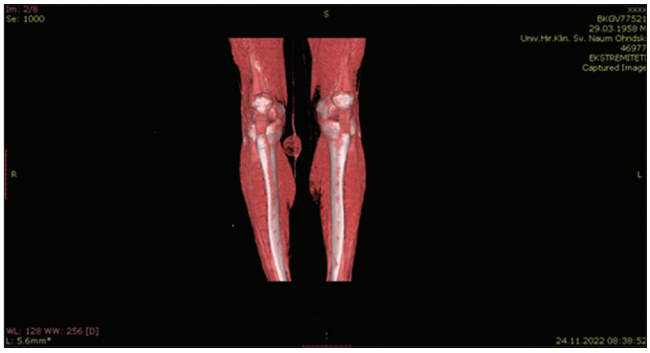


*Figure 1: Computed tomography angiography of an aneurysmatic change on the saphenous vein on the right lower leg (in color)*

was successfully operated on with nonpostoperative complications (Figure 3).

During the hospitalization, the patient was treated with anticoagulant therapy, antibiotics, and supportive treatment. He was discharge from the hospital the next day after surgery with a recommendation for antibiotic therapy and treatment with anticoagulant therapy. After discharge, the histopathology results confirmed the diagnosis of the aneurysm on greater saphein vein with thromb in formation in the blood vessel lumen.




*Figure 2: Computed tomography angiography of an aneurysmatic change on the saphenous vein on the right lower leg (in black and white)*

## Discussion

Venous aneurysms are unusual vascular malformations that occur equally between sexes and are seen at any age. There are four types of saphenous vein aneurysms [1], [2], [3], [4]. Type 1 is located in the proximal third of the saphenous vein. Type 2 is located in the shaft of the saphenous vein in the distal third of the leg. Type 3 is type 1 and type 2 in the same lower extremity. Type 4 is superficial short saphenous vein aneurysm. The cause of venous aneurysms remains unknown, although several theories have been proposed.

In general, two changes can lead to aneurism formation: progressive intimal proliferation of elastic, muscle, and connective tissue which occurs as a normal response to mechanical stress and a degenerative pathologic process characterized by alterations in ground substance, disruption and loss of elastic fibers, loss of medial muscle cells, and fibrosis [5], [6], [7]. This results from the pressure exerted by the adjacent arterial wall and the flow disturbance produced by continuous pulsations. Superficial vein aneurysms can be treated conservative, endovascular, and surgical [8], [9].



*Figure 3: Macroscopic view of an aneurysmatic change on the saphenous vein on the right lower leg*

The indications for surgical treatment in superficial venous aneurysms are the presence of symptoms, the risk of thrombosis, compression of nearby structures, and more commonly esthetic problems. Surgical treatment consists of ligation and total excision of the aneurysm [10]. However, in some cases, endovascular methods can be used such as foam, laser, or radiofrequency sclerotherapy. Patients with normal thrombophilic profiles should be treated with anticoagulant therapy for 3–6 months, otherwise anticoagulant therapy is prescribed indefinitely. In our case, surgical treatment is adequate treatment and the results of these types of pathologies are excellent as long as they are not associated with other vascular malformations.

## Conclusion

Venous aneurysms of the superficial systems are lesions that usually appear as asymptomatic incidental findings and rarely have clinical significance. They are an important differential diagnosis of groin and other subcutaneous masses. Surgical treatment is the treatment of choice for reducing the symptoms, risk of thrombosis, and esthetic problems and it has excellent results if there are not any other vascular pathologies.

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