

A Giant Aneurysm of Great Saphenous Vein Presenting as an Inguinal Hernia and Endovenous Approach: Case Report

Kasık Fıtığı Şeklinde Ortaya Çıkan Dev Büyük Safen Ven Anevrizması ve Endovenöz Yaklaşım

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ABSTRACT Unlike arterial aneurysms, true primary venous aneurysms are rarely seen. We report a greater saphenous vein aneurysm and its unusual treatment in our case. The aneurysm was initially confused with an inguinal hernia. Initial doppler ultrasound revealed a 6 cm-wide, saccular great saphenous vein aneurysm. The aneurysm was treated by complete extraction of the aneurysm sac and endovenous laser ablation for the rest part of the saphenous vein. As far as we know this is the first case report of such a saphenous vein aneurysm's treatment involving both surgical approach and endovenous laser treatment. We also provided a review of saphenous vein aneurysm pathophysiology, presentation, diagnostic evaluation, and therapy in our case.

Key Words: Saphenous vein; laser therapy; aneurysm

ÖZET Arteriyel anevrizmalardan farklı olarak; gerçek primer venöz anevrizmalar nadir görülürler. Bu olgu raporumuzda, büyük safen ven anevrizması ve onun olağan dışı tedavisini bildirdik. Anevrizma, başlangıçta kasık fıtığıyla karıştırıldı. Dopler ultrason tetkikiyle, 6 cm genişliğinde, sakküler büyük safen ven anevrizması teşhis edildi. Anevrizma; anevrizma kesesinin tamamen çıkarılması ve geriye kalan büyük safen ven bölümüne de, endovenöz lazer ablasyon yapılarak tedavi edildi. Bildiğimiz kadarıyla, olgumuz, safen ven anevrizma tedavisinde hem cerrahi yaklaşımın, hem de endovenöz lazer tedavisinin birlikte uygulandığı ilk olgu sunumudur. Olgu raporumuzda ayrıca, safen ven anevrizma patofizyolojisi, prezentasyonu, teşhis ve tedavisini de özetledik.

Anahtar Kelimeler: Safenöz ven; lazer tedavisi; anevrizma

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Primary venous aneurysms of the proximal saphenous vein are uncommon. They are most frequently seen in patients referred for evaluation and treatment of an inguinal or femoral hernia. Venous aneurysms are rare lesions but, however potentially life-threatening, being a source for pulmonary emboli.¹

CASE REPORT

The patient was a 34-year-old woman with no significant previous medical history who presented with a growing mass in her right groin, currently measuring 6 cm in diameter, causing local discomfort. This mass was getting smaller in a recumbent position or with manipulation. Physical examination showed multipl varicosities in both calf and thigh areas without other ab-



FIGURE 1: Duplex image reveals great saphenous vein (GSV) aneurysm.

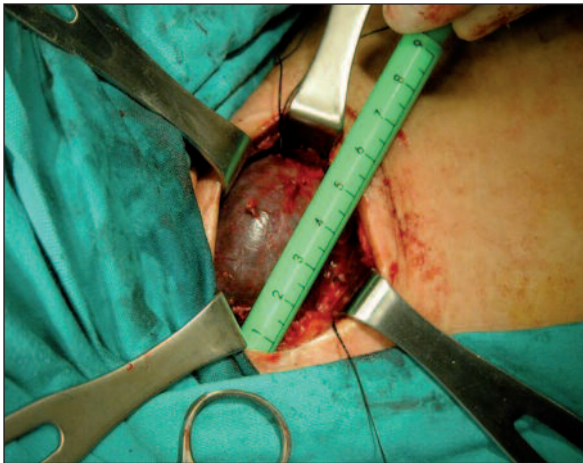


FIGURE 2: Picture shows intraoperative scene of saphenous vein aneurysm. (See for colored form <http://cardiovascular.turkiyeklinikleri.com/>)

normalities like oedema or pigmentation. Routine laboratory tests showed normal results. Duplex imaging revealed haemodynamically significant reflux (5 seconds) in sapheno-femoral junction, and a 6 cm-wide, saccular great saphenous vein (GSV) aneurysm, which did not contain thrombus (Figure 1). Phlebography was not carried out. The surgical approach was a complete extraction of the aneurysm under local anaesthesia. GSV segments proximal and distal to the aneurysm were explored first (Figure 2). The aneurysm was resected with ligation of GSV, subsequent to clamping of the proximal and distal segments. Avulsion phlebectomy over the calf and thigh regions were performed.

GSV was punctured at the level of the knee. After the GSV was punctured and the laser fiber was inserted to proper location, 500 ml tumescent anesthesia solution was then administered under US guidance. We performed endovenous laser treatment (EVLT) (940 nm/delivering 50-100 joules/cm energy).

She was given a non-steroidal anti-inflammatory drug for three days; wore elastic bandage for three days and class II (30-40 mmHg) stocking for one month. She was also advised to walk at least one hour per day, but to avoid intense exercise and standing for a long period of time. The patient was followed-up with doppler ultrasonography and assessed clinically at 1st-3rd week and 1st-3rd month after operation (Figure 3).

DISCUSSION

Primary venous aneurysms of the proximal saphenous vein are uncommon. They are most frequently seen in patients referred for evaluation and treatment of an inguinal or femoral hernia.¹

Aneurysms of the saphenous systems are classified into four types. Type 1 aneurysms are located in the proximal third of the saphenous vein, not at the saphenofemoral junction but instead just distal to the subterminal valve. Type 2 aneurysms are located in the shaft of the saphenous vein in the distal third of the thigh. The third classification (type 3) of superficial saphenous vein aneurysms is an occurrence of types I and II in the same lower extremity. Superficial venous aneurysms of the short

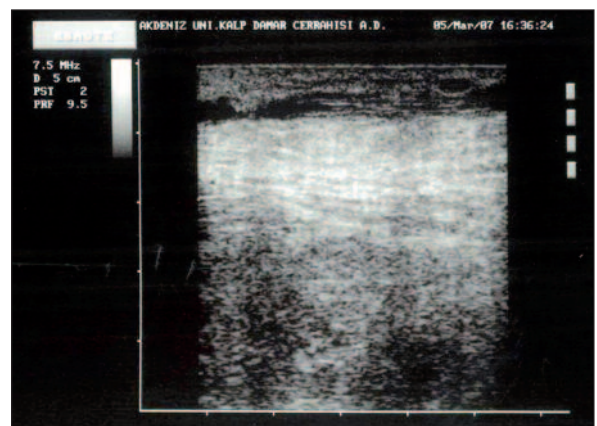


FIGURE 3: Duplex image reveals total occluded saphenous vein after endovenous laser treatment (EVLT).

saphenous system were also found and were classified as type 4.¹

Strong correlations are found with female gender. There is a strong correlation between type 3 aneurysms of the proximal and distal thigh greater saphenous vein and greater saphenous vein reflux.²

Owing to the increased use of duplex ultrasound imaging, saphenous vein aneurysms are being recognized more frequently. Symptomatic patients typically complain of the sequelae of reflux, such as edema, pain, mass, and varicosities. Preservation of the saphenous vein should be considered in patients who have a normal distal saphenous vein. Repair of a primary saphenous venous aneurysm preserves the saphenous vein for use as a conduit for later bypass surgery of the leg or heart.

EVLT was introduced as an alternative to ligation and stripping by Navarro et al. in 2002³ and has rapidly become the treatment of choice for treating saphenous vein insufficiency. EVLT has a

number of advantages like lesser postoperative scarring compared to ligation and stripping of saphenous vein.³

Generally, current treatment of venous aneurysms consists of simple open excision. Treatment of proximal saphenous vein aneurysm with polytetrafluoroethylene (IMPRA) interposition graft has been reported recently.⁴

After surgical treatment of aneurysm, we preferred EVLT, instead of stripping because of aesthetical apprehension regarding to our patient's desire, and our patient didn't want an extra incision. As far as the related literature surveyed, this is the first report of such a saphenous vein aneurysm treatment, involving both open surgery, and EVLT for the rest of saphenous vein part.

We believe that endovenous treatment combined with open surgery is an effective and safe method for saphenous vein aneurysm treatment when the anatomy is suitable.

REFERENCES

1. Majeski J. Replacement of in situ saphenous venous aneurysms with arterial autografts. *Am J Surg* 2004;188(2):168-70.
2. Pascarella L, Al-Tuwajiri M, Bergan JJ, Mekenas LM. Lower extremity superficial venous aneurysms. *Ann Vasc Surg* 2005; 19(1):69-73.
3. Akgül A, Polat A, Bakuy V, Özbacı EA. [Endovenous varicose veins treatment and complications]. *Türkiye Klinikleri J Cardio-vasc Surg-Special Topics* 2009;2(2):46-9.
4. Majeski J. Surgical repair of primary saphenous vein aneurysm of the proximal leg after initial presentation as an inguinal hernia. *Am Surg* 2002; 68(11): 999-1002.