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Vascular Diseases Quiz – Case 31

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2015, 32(6):801–802

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A 32-year-old female was presented with a non-healing skin ulcer dating since a few weeks. The ulcer was located on the medial surface of the lower third of the leg. During physical examination large varicose veins were found to occupy the medial and posterior surfaces of the leg. The patient reported that the varices appeared 5 years ago during pregnancy. Since then, the varicose veins have gradually grown in size. She also reported symptoms of leg discomfort and swelling whilst standing. The symptoms have also become more prominent since they first appeared.

During ultrasound duplex scan, the patient was found to have incompetence of the entire length of the great saphenous vein (GSV), including the saphenofemoral junction.

What is the treatment of choice for this patient?

a. High ligation and saphenous stripping
b. Endovascular laser ablation
c. Foam sclerotherapy
d. Conservative treatment

Comment

Varicose veins (VV) of the lower extremities are dilated veins, involving most frequently the GSV and small saphenous vein (SSV). 15% and 25% of males and females, respectively, are affected by varicose veins. The traditional therapy of the superficial vein insufficiency (primary VV) of the lower extremities is surgical and it consists of high GSV ligation and stripping.

In the modern era, minimally invasive vein surgery has changed our approach to venous insufficiency treatment and it is considered the procedure of choice. Radiofrequency ablation and laser ablation are both examples of endovenous procedures for the treatment of varicose veins.

The advantages of endovenous compared to traditional surgery include avoiding general or epidural anesthesia, better cosmetic results, and quicker patient recovery and return to everyday activities.

Endovenous laser ablation (ELA) consist in vein occlusion, through thermal energy conduction to the affected vein wall with consequent fibrosis of the vein and finally reabsorption from the surrounding tissue. Thermal energy conduction is caused by photons absorbed by the vein wall and also through blood serum heating and creation of steam.

ELA is performed under ultrasound guidance. A thin laser fiber is inserted into the GSV with its tip located 1–2 cm below the saphenofemoral junction (SFJ) (fig. 1). At the same time, tumescent anesthesia is administered in the tissues surrounding the vein, causing a collapse of the vein lumen and protecting the surrounding tissues of the potential thermal injury.

As the fiber is gradually withdrawn the energy emitted from the laser fiber causes occlusion of the vein through damage to the vessel endothelium. This procedure can be combined with phlebectomies through small 1 mm skin incisions.

The procedure is minimally invasive and pain-free. After the procedure elastic stockings should be used and the patient is able to return to normal every day activity 24 hours later.

Both the effectiveness and the complication rates of ELA are similar to the respective rates of open surgical repair. Great advantages of the ELA concern low incidence of bruising and the patient experiencing less or no pain.

Major ELA complications are rare and include deep vein throm-

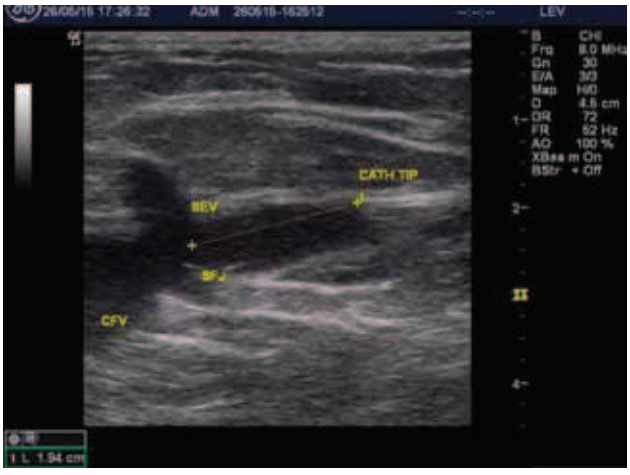

Figure 1. Catheter tip shown below the saphenofemoral junction (SFJ).

bosis (endovenous heat induced thrombosis; <1%), superficial thrombophlebitis, paresthesia, thermal skin injury, and bruising.

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