Sclerotherapy for Varicose Veins

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The study presents the experience of Medvarix Clinic in treatment of varicous veins using foam sclerotherapy during 2010 – 2015. It is a retrospective study on five years with 893 patients with varicous veins. Mean age – 47years. There were 532 women and 361 men. CEAP classification: CEAP stage III – 279 cases, CEAP stage IV – 246 cases, CEAP stage V – 201 cases, CEAP stage VI – 167 cases. There were 893 ultrasound guided foam sclerotherapy procedures. 261 cases had associated sclerotherapy for perforating veins of closed varicous ulcer and 161cases had associated sclerotherapy for perforating veins for open varicous ulcer. Complications during procedure: misspunction of saphenous vein per primam with a secondary punction – 39 cases, postinjectional hematoma – 11 cases, local allergic reaction – 9 cases. All treated conservatory. Late complications: minor – hiperpigmentation – 47 cases, local inflammations – 101 cases, superficial tromboflebitis – 10 cases, postinjectional necrosis – 9 cases. Major complications: profound tromboflebitis – 1 case. Ultrasound guided foam sclerotherapy is a safe mode to treat varicous veins with good both functional and aesthetic results.

Keywords: varicose disease, sclerotherapy

Varicose disease has complicated more and more people's lifestyle, given that, according to studies, about 30% of the population and 60% of women in Romania currently present signs of this disease. Statistically, compared to men, women are four times more likely to develop varicose disease; it is estimated that out of people aged up to 30 (who have varicose veins), approximately 80% are women, while the condition is found in a ratio of only 20% among men. Symptomatically, discomfort in the calves, sensation of heaviness, sensation of burning, of swollen feet, painful and unsightly veins, are signs announcing the appearance of varicose veins in lower limbs. Varicose veins are sign of a disease way more important than varicose disease – chronic venous insufficiency.

Chronic pain and psychological effects have the potential to reduce the quality of life, not only for the one in pain, but also for the ones surrounding them. In some cases, the psychological effects of pain can outlive chronic pain itself and then become a major health disorder.

Sclerosing treatment has a long history and has brought an important contribution in the therapy of chronic venous insufficiency syndrome of the lower limbs. The literature is rich in data, methods and sclerosing substances. Sclerotherapy must be considered a complementary method of treatment. It has the meaning to resolve medium-caliber venous collaterals, and the remaining veins after saphenectomy and phlebectomies, and it is practiced more out of prophylactic and aesthetic reasons.

Experimental part

Materials and methods

We performed a retrospective study over a period of 5 years (2010 to 2015) in ambulatory patients treated by ultrasound-guided foam sclerotherapy in Medvarix Clinic SRL Timisoara using data on patients and procedure from their files stored in clinic.

Regarding the technical execution of sclerotherapy, one must know the initial dose, the time interval between the sclerotherapy sessions, the maximum dose per sclerosing injection, as well as the maximum quantity of substance per treatment session [1-3].

The initial dose represents the number of sclerosing injections in the debut session of treating the varicose veins in the lower limbs. The concentration of the sclerosing substance varies from author to author, the number of the injections as well: from one to six during the first treatment session. For the initial dose and the concentration of the sclerosing substance, great caution is needed in order to avoid the possible undesirable effects or the complications of the method [4].

Aethoxysklerol 0.5% is injected in small caliber varicose veins, reticular veins and telangiectasias, while in medium caliber varicose veins, the substance can be injected with

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a 1% concentration. The interval between the treatment sessions should be at least 30 days, during which heparin based ointments and anti-inflammatory should be applied, given the inflammation potential of the sclerosing substance, especially in the first post-injection period [5].

The maximum dose administered per session is 4mL of aethoxysklerol with a 2% concentration, diluted according to the caliber of the treated veins, which applies across a single leg.

Results and discussions

Indication of sclerotherapy using polidocanol foam in various concentrations were different, and closely correlated with the size of treated veins and stage of disease. CEAP stages III, IV, V, VI underwent ultrasound-guided foam sclerotherapy for closing an internal saphenous vein reflux incontinence documented by ultrasound examination. For CEAP stages IV and V was added for foam sclerotherapy of perforating veins in the calf or leg ulceration adjacent closed and open respectively. CEAP stages III and IV received a combination of partially foam sclerotherapy for the side who did not qualify as indication of phlebectomies size, but exceeded the diameter of veins with conventional liquid sclerotherapy indication [6]. We considered useful to accept in the study only patients who refused any surgical maneuver so we did not take into account patients who have been associated foam sclerotherapy with endovascular laser or phlebectomies.

CEAP classification: CEAP stage III – 279 cases, CEAP stage IV – 246 cases, CEAP stage V – 201 cases, CEAP stage VI – 167 cases. There were 893 ultrasound guided foam sclerotherapy procedures. 261 cases had associated sclerotherapy for perforating veins of closed varicous ulcer and 161 cases had associated sclerotherapy for perforating veins for open varicous ulcer.

Fig. 1. Aspect before and after sclerotherapy

Fig. 2. Aspect before and after sclerotherapy

Foam sclerotherapy

Foam sclerotherapy is not a new treatment method: many authors have presented their own recipes and results many years ago. The foam is obtained by mixing the sclerosing substance with gas (fig. 1 and 2) [7, 8]. For sclerotherapy, the sclerosing agent is Polidocanol and the common used gas is air. The foam is formed after repeatedly moving the substance from one syringe into another through a connector which reduces the diameter, by substracting the size of the foam bubbles [9-11].

Fig. 3. The sclerosing agenty

Conclusions

Method of treatment of chronic venous insufficiency in various stages of evolution by ultrasound guided foam sclerotherapy is a method with both good functional and aesthetic results, which avoids conventional surgery, or minimally invasive surgery with endovascular laser.

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Manuscript received: 21.02.2016