

# SELECCION DE ABSTRACTS

Fuente: **International Angiology / 15° Congreso Mundial / U.I.P.**

## 0091 - Histology of foam Sclerotherapy

**Aim:** In recent years several proposals have been done for treatment of varicose veins with a detergent sclerosing solution transformed in foam. This should provide several advantages (in confrontation with liquid solution) due to the different behavior of the drug when injected as a foam: a) enhanced adhesiveness of the sclerosant to the vein inner wall, b) compactness with poor initial mixing with blood (this can provide better predictivity of concentration obtained in the vein segment to be treated), c) longer persistence of the foam, hence different variables have to be considered in choosing the right amount and concentration of drug. d) Visibility at duplex scanning due to the air (or different gases) present in the foam, e) enhancement of sclerosing power and of spasm occurrence. finally O reduction of mg doses because from 0.5 ml of liquid it is possible to produce at least 2-3 ml of foam. In this study we have compared the action of the liquid and the foam of Polidocanol (POLI or sodium tetradecyl sulphate (STS) on the great saphenous vein (GSV) in vivo.

**Methods:** A foam injection was made in the isolated proximal stump of 12 GSV two minutes before the stripping of vein. A small ring of untreated vein was removed before sclerosing injection in order to provide a control. Specimens were stained with Hematoxylin-Eosin. An analysis of the alteration of the endothelium and the vein wall. Reduction of diameter, spasm rate and deepness of action was then performed on a blind basis using a specifically designed grading.

**Results:** The sclerosing foam has demonstrated highly enhanced action on the vein wall in comparison with the equivalent! Liquid solution. Moreover a deep effect of the sclerosing has been demonstrated in the intima and at the border with the media with presence of bubbles.

**Conclusions:** The sclerosing foam has demonstrated to be a safe and effective advancement in the treatment of large veins of the lower limbs in this group of patients. This study clearly describes the action of the sclerosing foam and its advantages on conventional liquid sclerotherapy.

## 0333 - Indications and outcome of greater saphenous vein foam sclerotherapy

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Injection sclerotherapy is an efficient and old technique for treatment on incompetent saphenous veins. "With the French technique, the treatment is performed from the top to the bottom. Since 1988. We use duplex guided sclerotherapy to avoid intra arterial injections. Foam sclerotherapy was developed in France by Monfreux and the procedure improved by many phlebologists. In our experience injection sclerotherapy with foam is an excellent indication for treatment of incompetent greater saphenous veins GSV) for size less than 7mm. We describe the procedure with ultrasound guided injection. Foam. A total of 218 patients, 280 incompetent GSVs. Were treated by injection sclerotherapy. All the patients were checked by Duplex examination at 1 month, 6 months and 1 year. GSV were closed in 98.9% of cases at 1 month, 82.8% of cases at 6 months and 76.7%. Few complications were observed except some cases in venous inflammations.

## 0327 - Flush ligation of the saphenofemoral junction and retrograde foam ultrasound-guided sclerotherapy of varicose saphenous vein

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**Aim.** The objective was to analyze the effectiveness of flush ligation at the sapheno-femoral junction (SFJ), groin tributary vessels ligation and retrograde foam ultrasound-guided sclerotherapy treatment in varicose saphenous veins with SFJ insufficiency.

**Methods:** Twenty-one limbs in 17 patients with greater saphenous vein incompetence were treated with flush ligation of SFJ and tributary combine with retrograde foam ultrasound-guided sclerotherapy. There were 5 male, 12 female patient with a mean age of 38 (26-58) years. All had a color duplex scan which showed retrograde flow longer than 0.5 sec. with a incompetent terminal valve in 5, terminal and preterminal valve for the rest. Mean diameter at the saphenofemoral junction was 0.98 cm. (0.6-1.5 cm). Flush ligation of SFJ and tributary was performed through a 3-5 cm. groin incision previously marked with USG under local anesthesia. Catheter was introduced through the greater saphenous vein

(GSV) and the foam produced by Tessari's method using 3% Polidocanol was injected into the GSV under duplex guidance with catheter. Ratio to the distance of venous obstruction (OBS) to the distance of the catheter tip during foam injection (DIS) was calculated CR: O/D). Mean DIS was 4.1cm (25-80 cm...) and mean volume of injected foam was 5.3cc. (4-7cc). Duplex examination was performed in 3 days, 1 and 3 months after the sclerotherapy. In 14 patients foam, liquid sclerotherapy and/or phlebectomy was used to treat the distal saphenous vein tributary in different sessions.

**Results.** Mean follow up was 23 weeks. There were no flows at saphenous vein at 3 days with Doppler USG. R:O/D was >1 for all patients at the post-treatment duplex examination performed at 3 days and 1 month. Ratio was 0.8-1 for the 7 legs and remained >1 for the rest at the 3-month follow-up. None of the patients had a DVT or leg swelling.

**Conclusion:** Ligation of SFJ and retrograde foam sclerotherapy is an effective, safe and minimal invasive alternative to surgery. This technique also overcomes the SFJ diameter restriction and embolization to the deep system which other endovascular techniques faced.

#### 0168 - Effect of external valvuloplasty of deep vein in the treatment of chronic venous insufficiency of lower extremity

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**Aim.** The aim of this study was to verify the role and effect of external valvuloplasty in the treatment of chronic venous insufficiency (CVI) of lower extremity.

**Methods:** Thirty patients with CVI of bilateral lower extremities were enrolled to accept surgical management of vein systems. Both limbs of each patient were randomized into two groups respectively according to the operating style. One limb was given external valvuloplasty of the superficial femoral vein and surgery of superficial venous system (group A), the other limb was only given the surgery of superficial venous system (group B). The effect comparison between both limbs of each patient and 2 groups by color duplex scanning color Doppler velocity profile CDVP, Air plethysmography and CEAP score system one month and 3 years after operation.

**Results:** All 60 limbs of 30 cases were CEAP C2-C4 with reflux (Kistner's method) in the deep veins confirmed by color duplex scanning and venography. In 1 month and 3 years after surgery, all the indexes of

the limb in the group A were dramatically improved compared with those of the limbs, in the group B. The average value of venous reflux degree, reflux volume, and venous filling Index (VFI) had significant difference between the two groups (P<0.001). In 3 years after surgery, there was significant difference between the two groups on ejective fraction (EF) and residual volume fraction (RVF) (P<0.05) and CEAP clinical score (P<0.001).

**Conclusions:** External valvuloplasty of deep vein may reduce the reflux volume of the affected deep vein and improve the valve function, and can result in better outcomes when combined with surgery of the superficial venous system.

#### 0405 - Sapheno popliteal anastomosis: 4 cases with late results

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**Aim:** The absence of superficial femoral vein rechanneling is compensated by collateral circulation in the vast majority of cases. Patients with CEAP classification C3, 4, 5, and 6 symptomatology can be selected for surgical treatment by sapheno popliteal anastomosis.

**Methods:** Four patients' undervent venous sapheno-popliteal anastomosis from February 1987 to March 1990: 3 male (post-traumatic) and 1 female (lupus erythematosus). The average age was 27 years (range 25-31 years). All patients presented non-rechanneled thrombosis of the superficial femoral vein and this thrombosis had occurred at least 2 years prior to diagnosis. Everyone felt pain and swelling of the limb, having been treated clinically for at least 15 months with no satisfactory results. The preoperative assessment venography demonstrated the technical feasibility of performing surgical treatment in all cases.

**Results:** Being monitored by Doppler ultrasound control for an average follow-up period of 16 years, all patients now present sapheno-popliteal anastomosis. Postoperative swelling has been reduced in patient 1 from 9 cm to 1 cm, in patient 2 from 11 cm to 2 cm, in patient 3 from 13 cm to 2 cm and in patient 4 from 16 cm to 2 cm.

**Conclusions:** Sapheno-popliteal anastomosis is not a frequent procedure. However, its results are satisfactory in well selected patients.