

Pelvic Congestion Syndrome: management by sclerotherapy

L. Tessari

Introduction

Recent studies have shown that women have valves in hypogastric veins only in 10% of cases and gonadal veins have valves in 50% of cases, also a free communication between these veins and their contralateral veins through the venous plexus (rectal, uterine, vaginal, bladder and periurethral) has been highlighted; when a pelvic varicocele is evident, in most cases there is a single network which is deep and refluxing in the pelvis, while the superficial veins (perineal and labial) in the perineal region may exhibit or not reflux, thus a prevalently pelvis located refluxing network is possible in many patients. This also happens in pregnancy, when anatomical structural and haemodynamic changes are typically visible, though the persistence of these changes after delivery may originate pelvic congestion syndrome + lower limb varices.

Background

Pelvic Congestion Syndrome is a recently recognized clinical picture due to pelvic vein insufficiency. Sometimes, propagation of venous reflux into the lower extremities determines varicose veins and chronic venous disease (CVD). Moreover, C. Franceschi and A. Bahnini reported that varicose veins readily visible in the medial aspect of the thigh in the presence of a competent sapheno-femoral junction, are mostly fed by reflux through the vein of Alcock channel.

The perineal site of reflux (point P) pierces the perineal superficial fascia at the level of transversus perinei superficialis muscle. It is associated with the junction of the perineal and labial veins which are reflux-filled by the internal pudendal vein (Alcock channel).

C. Franceschi and A. Bahnini have proposed a surgical approach to the treatment of these two points of reflux after a meticulous colour-duplex ultrasound investigation and precise skin marking.

The present author proposes a different approach to the treatment of these points of reflux, above all with regard to point P, through the injection of sclerosant foam with colour-duplex ultrasound guide.

Aims

To assess feasibility, efficacy and safety of ultrasound guided sclerotherapy foam sclerotherapy in treating reflux of the refluxing vein/s in Alcock channel, as well as treating the consequent varicose veins of the lower limbs.

Methods

Point P has been visualized and located with colour-duplex ultrasound examination, while having the patient in a gynecological position, with the probe in transversal position between the ischio-pubic bone and the posterior vaginal cavity. When point P is located,

and its distance from the skin is measured in order to establish the necessary needle length, we proceed with the direct injection of the foam prepared according the Tessari method, using sodium tetradecylsulfate 2% and a mixture of the soluble and biocompatible gases (CO₂ 70% + O₂ 30%).

647 consecutive women patients, affected by CVD of the lower limbs, underwent both clinical and colour duplex investigation, demonstrating in 95 women (age 32-66 years) venous reflux from the vein of the Alcock channel. They underwent one session of ultrasound guided foam sclerotherapy, followed in 22 cases, by a second stage injection after 3 weeks. Follow-up includes clinical as well as ultrasonographic evaluation.

Results

The mean follow-up lasted 24 months. Nor minor nor major complications have been reported, and the patients' compliance has been optimal. Reflux through the vein of Alcock channel as well as the connected varicose veins disappeared in the entire treated area.

Conclusions

Morphology and hemodynamics assessment through colour-duplex ultrasound investigation has become of paramount importance in everyday phlebology practice; this approach allows a focused imaging and treatment, with the use of radical and cosmetically feasible procedures. Varicose vein disease can be treated with different methods, though the safest and easiest procedures could be preferred by phlebologists and foam sclerotherapy is one of these; a conservative strategy allows to respect vein hemodynamics as well to target the main escape points. Nine years after its appearance, "Tessari method" for foam sclerotherapy has radically changed the world of varicose vein treatment; slowly the correct parameters to assess this method are emerging: the volume of foam to be injected, the concentrations used, the types of foam (more or less viscous) to be used, as well as the proper strategy of treatment. The ultrasound guidance and also the innovative usage of intravenous catheters and the use of biocompatible gas mixtures make foam sclerotherapy very practical and easy to use also. Similarly also large diameter veins can be treated with this method, thus creating a valid alternative to surgery in many cases. Our experience demonstrates that in the case of pelvic varicocele with escape points (such as the P point) towards the lower limbs, ultrasound guided foam, sclerotherapy may represent a first choice method, thanks to its safety and efficacy which is achievable after a short learning curve. Ultrasound-guided foam sclerotherapy, in the short term, seems to be both effective and minimally invasive for treating such an atypical albeit frequent pattern of reflux in women. Further research will be necessary in order to validate this technique in the long term.

BASIC REFERENCES

- Cavezzi A. Cosa sta cambiando nella terapia delle varici? *Ortho2000* 2003; 1: 21-3.
- Cavezzi A. Duplex investigation and local anaesthesia. Foam sclerotherapy. *Vascular News* 2002; 13: 16.
- Cavezzi A. Schiuma "mousse" sclerosante. *L'Ambulatorio Medico* 2001; 4: 7-8.
- Cavezzi A. Sclerotherapie a la mousse (methode de Tessari): etude multicentrique. *Phlebologie (Annales Vasculaires)* 2002; 2: 149-54.
- Cavezzi A. Sclerotherapy with foam. New results, new techniques. *Vasomed* 2003; 1:27.
- Cavezzi A. The use of sclerosant foam in sclerotherapy: possibilites and limits. *Austral and New Zeal J of Phlebology* 2000; 4: 100-1.
- Cavezzi A, Frullini A. Experiencia de 3 anos con la espuma esclerosante en le escleroterapia eco-guiada de las venas safenas y de las varices recidivas. *Flebologia (Atlas Anatomico)*; 31-34.
- Cavezzi A, Frullini A. The role of sclerosing foam in ultrasound guided sclerotherapy of the saphenous veins and of recurrence varicose veins: our personal experience. *Australian and New Zealand J of Phlebology* 1999; 3: 49-50.
- Cavezzi A, Frullini A, Ricci S, Tessari L. Tratamiento de varices con espuma esclerosante: 2 series clinicas. *Anales de Chirurgia Cardiaca y Vascular* 2003; 9: 62-8.
- Cavezzi A, Frullini A, Ricci S, Tessari L. Treatment of Varicose Veins by Foam Sclerotherapy: Two Clinical Series. *Phlebology* 2002; 17: 13-8.
- Cavezzi A, Tarabini C, Collura M, Sigismondi G, Barboni MG, Carigi V. Hemodynamique de la jonction sapheno-poplitee: evaluation par echo-doppler couleur. *Phlébologie* 2002; 55: 309-16.
- Cavezzi A, Tessari L, Frullini A. A new sclerosing foam in the treatment of varicose veins: Tessari method. *Minerva Cardioangiologica* 2000; 9: 248.
- Franceschi C, Bahnini A. Point de fuite pelviens viscéraux et varices des membres inférieurs. *Phlébologie* 2004; 1: 37-42.
- Frullini A, Cavezzi A. Sclerosing Foam in the Treatment of Varicose Veins and Telangiectases: History and Analysis of Safety and Complications. *Dermatol Surg* 2002; 28: 11-5.
- Frullini A, Cavezzi A, Tessari L. Escleroterapia de las varices de los miembros inferiores mediante espuma esclerosante Fibro-Vein con el metodo Tessari. *Revista Panamericana de Flebologia y Linfologia* 2001; 41: 18-25.

Frullini A, Cavezzi A, Tessari L. Scleroterapia delle varici degli arti inferiori mediante schiuma sclerosante di Fibro-vein con il metodo Tessari (esperienza preliminare). *Acta Phlebologica* 2000; 1: 43-8.

Georgiev M. The femoropopliteal vein. Ultrasound anatomy, diagnosis, and office surgery. *Dermatol Surg* 1996; 22: 57-62.

Pieri A, Vannuzzi A, Duranti A, et al. La valvule pré-ostiale de la veine saphène externe. *Phlébologie* 1997; 50: 343-50.

Pieri A, Vannuzzi A, Duranti A, et al. Role central de la valvule pré-ostiale de la veine saphène interne dans la genèse des varices tronculaires des membres inférieurs. *Phlébologie* 1995; 48: 227-9.

Pieri A, Vannuzzi A, Moretti R, Gatti M, Caillard P, Vin F. Aspects échographiques de la jonction saphéno-fémorale et de la jonction saphéno-poplitée. Valvules et rapports avec les collatérales accessoires. *Phlébologie* 2002; 55: 317-28.

Tessari L. Eco-Foam sclerotherapy of the point "P". In: *Pathologie Veineuse en Gynécologie et Obstétrique. Réunion de la Société Française de Phlébologie, Paris 2006* Juin 3; 9.

Tessari L. Mousse de sclérosant et utilisation d'un cathéter endoveineux dans le traitement de l'insuffisance veineuse superficielle. *Phlébologie Ann Vasc* 2002; 55: 293-7.

Tessari L. New technical method (mixture of gas) in the productio of Tessari's sclerotherapy-foam. *International Angiology* 2005; 24 Suppl.1: 131.

Tessari L. Nouvelle technique d'obtention de la sclero-mousse. *Phlébologie* 2000; 53: 129.

Tessari L. Schiuma sclerosante "Tessari method": storia ed applicazioni cliniche. In: 2° edizione F. Marian F, Mancini S. *Scleroterapia* . 2. Ed. Torino: Minerva Medica, 200; 65-87.

Tessari L, Cavezzi A, Frullini A. New sclerosing foam. *Phlebology Digest* 2001; 14: 18-9.

Tessari L, Cavezzi a, Frullini A. Preliminary Experience with a New Sclerosing Foam in the Treatment of Varicose Veins. *Dermatol Surg* 2001; 27: 58-60.

Dott. Lorenzo Tessari, Bassi Foundation, Trieste

Per la corrispondenza: lorenzo@tessaristudi.it