

CHIVA diffusion is now possible, even towards “normal” phlebologists

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Great Saphenous Vein (GSV) conservative treatment is interesting because reduces the costs, saves a vessel used in bypass treatments, maintains the normal leg draining system, reduces recurrences.

Conservative GSV surgery may be done in several ways, as described recently in two open-access issues produced by the Journal of Theoretical and Applied Vascular Research.¹ Unquestionably, CHIVA (*Cure Hemodynamique de l'insuffisance Veineuse en Ambulatoire*) is the most identified method for saphenous conservation; Claude Franceschi, the inspiring author of this treatment, in 1988 published a small book, printed in handwritten italics, where a simplified operative strategy for reflux hypertension elimination was suggested.² Based on limited targeted vein ligations in local anesthesia, it needed an intensive pre-operative Ultrasound Duplex assessment, not within reach at that time (but nowadays largely diffused). For this reason and for being completely opposite to the current saphenous ablation treatment modalities in times of continuous ablation gadgets suggestions, CHIVA did not find universal agreement, although it maintains an important supporter community.

In facts, astonishing for the surgical community, the reflux was identified by several possible shunts (18 types have been theorized; TEUZPITZ Shunts Classification by CHIVA team, 2002);³ reversed saphenous flow was not considered pathologic; perforators were helpful; saphenous could regain competence (and other strange rules suggested).

As time passed, ultrasound investigations spread rapidly so that at least a basic understanding of the Duplex application to assess varicose extension and origin is now well-established in phlebologists' work. Interestingly, a significant number of the validated tools generally utilized in Duplex analysis at present derive

from the CHIVA experience: i) standing position for reflux assessment; ii) activation maneuvers; iii) the eye sign for saphenous stems identification; iv) different networks (N2 and N3) distinction; v) the alignment sign for Anterior Accessory Saphenous Vein (AASV) identification; vi) perforating veins characterization; vii) the difference between axial and non-axial reflux.

The problem of needing a particularly high understanding of venous ultrasound analysis, which was initially requested for the CHIVA application, is becoming less important as people learn more basic skills. Naturally, there is no doubt that ultrasound expertise is of paramount importance for a deeper knowledge of hemodynamics, scientific deepening, theoretical speculation, and clinical progress; however, a correct approach to this conservative method is within reach of normally trained phlebologists.

Furthermore, clinical experience demonstrated that CHIVA conservative cure, from the surgical point of view, is finally reduced to two limited operation phases: tributary phlebectomy (or tributary disconnection preferred by “purists”) and junction interruption when needed (crossotomy).

Taking these premises into account, I wrote a review paper titled “CHIVA for dummies”,⁴ published in the Phlebology Journal, trying to underline a new perspective for CHIVA saphenous conservation policy, free from the “difficulty and the long course apprenticeship myths”.

According to my simplification suggestion, understood that we process cases with GSV incompetence, the first step to deal with is the direct avulsion of varices, *i.e.*, the refluxing N3 network omitting any saphenous manipulation. Phlebectomy is the easiest and most effective method employing simple local infiltration anesthesia, micro incisions, and immediate ambulation in an office setting. When a radical conservative attitude is preferred, like CHIVA radical proponents suggest, a disconnection (section and flush ligation) of the dilated tributaries from the saphenous axis is preferred.

As a result, we can obtain two different hemodynamic situations: i) saphenous reflux cessation: if the perforator acting as a re-entry of the retrograde flow is centered on the eliminated tributary. No saphenous correction is then necessary; ii) saphenous reflux persistence: if a re-entry perforator is centered on the saphenous axis itself, reflux will not cease after phlebectomy as the shunt is not interrupted. Junction interruption is then necessary.

The two functional possibilities may be foreseen by the Reflux Elimination Test (RET).⁵

Junction interruption is the second step: it should be done by crossotomy (flush ligation and section preserving the collaterals), so maintaining the drainage of the Junction's tributaries. This choice tends to avoid collateral drainage hindrance (like in traditional crossectomy) with consequent revascularization induction, but it will also allow a limited reduced flow in the saphenous channel, maintaining its function.⁶

Delaying the possible second step (from two to six months in relation to opportunities) will select which cases need junction surgery: valve incompetence has to be diagnosed when a retro-

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grade flow lasting longer than 0.5 s is elicited by both calf squeezing/release and Valsalva maneuvers, with the patient standing.⁷ In fact, it has been evidenced that around half of patients with varicose veins with GSV reflux have a competent terminal valve; when incompetent, the valvular complex may benefit from the GSV caliber reduction following phlebectomy, regaining its function; even in incompetence persistence, the diastolic flow may be reduced after the first step. Therefore, the need for the second step may be appreciably reduced or further delayed.

In particular, the positive RET (reflux stop after phlebectomy) and terminal valve competence combination (40-50% of varicose patients) have the highest probability of not requiring further GSV treatment.⁸

Two sessions of treatment may be unwelcome for those patients preferring a single “shot”, but a long personal experience shows that the possible saphenous conservation is highly appreciated and convincing.

Surely, companies interested in saphenous ablation tools do not like the conservative attitude described; their power is consistent and enhanced by the operators’ passion for the most modern technologies.

In conclusion, simpler does not mean simple, like somebody said before me. Those wanting to approach CHIVA must anyway apply for progressively learning continuous new challenges due to the countless anatomic-functional variations of the venous human network. But yes, they can.

References

1. Ricci S, Calandra G, Recek C, et al. Saphenous sparing treatments. *Journal of Theoretical and Applied Vascular Research* 2023;8.
2. Franceschi C. *Théories et pratique de la Cure Conservatrice et Hémodynamique de l’Insuffisance Veineuse en Ambulatoire*. Editions de l’Armançon; Precy-sous-Thil, France; 1988.
3. Zamboni P, Mendoza E, Giancesini S. *Saphenous vein sparing strategies in chronic venous disease*. Springer; New York, USA; 2018.
4. Ricci S. CHIVA for dummies. *Phlebology* 2024;39:238-44.
5. Zamboni P, Cisno C, Marchetti F, et al. Reflux elimination without any ablation or disconnection of the saphenous vein. A haemodynamic model for venous surgery. *Eur J Vasc Endovasc Surg* 2001;21:361-9.
6. Cappelli M, Molino-Lova R, Giangrandi I, et al. Ligation of the saphenofemoral junction tributaries as risk factor for groin recurrence. *J Vasc Surg Venous Lymphat Disord* 2018;6:224-9.
7. Cappelli M, Molino Lova R, Ermini S, Zamboni P. Hemodynamics of the sapheno-femoral junction. Patterns of reflux and their clinical implications. *International Angiology* 2004;23:25-8.
8. Zamboni P, Giancesini S, Menegatti E, et al. Great saphenous varicose vein surgery without saphenofemoral junction disconnection. *Br J Surg* 2010;97:820-5.