Vall d'Hebron
Hospital General
Servei d'Angiologia i Cirurgia Vascular i Endovascular

CONTROVERSES ET ACTUALITÉS EN CHIRURGIE VASCULAIRE
CONTROVERSIES & UPDATES IN VASCULAR SURGERY

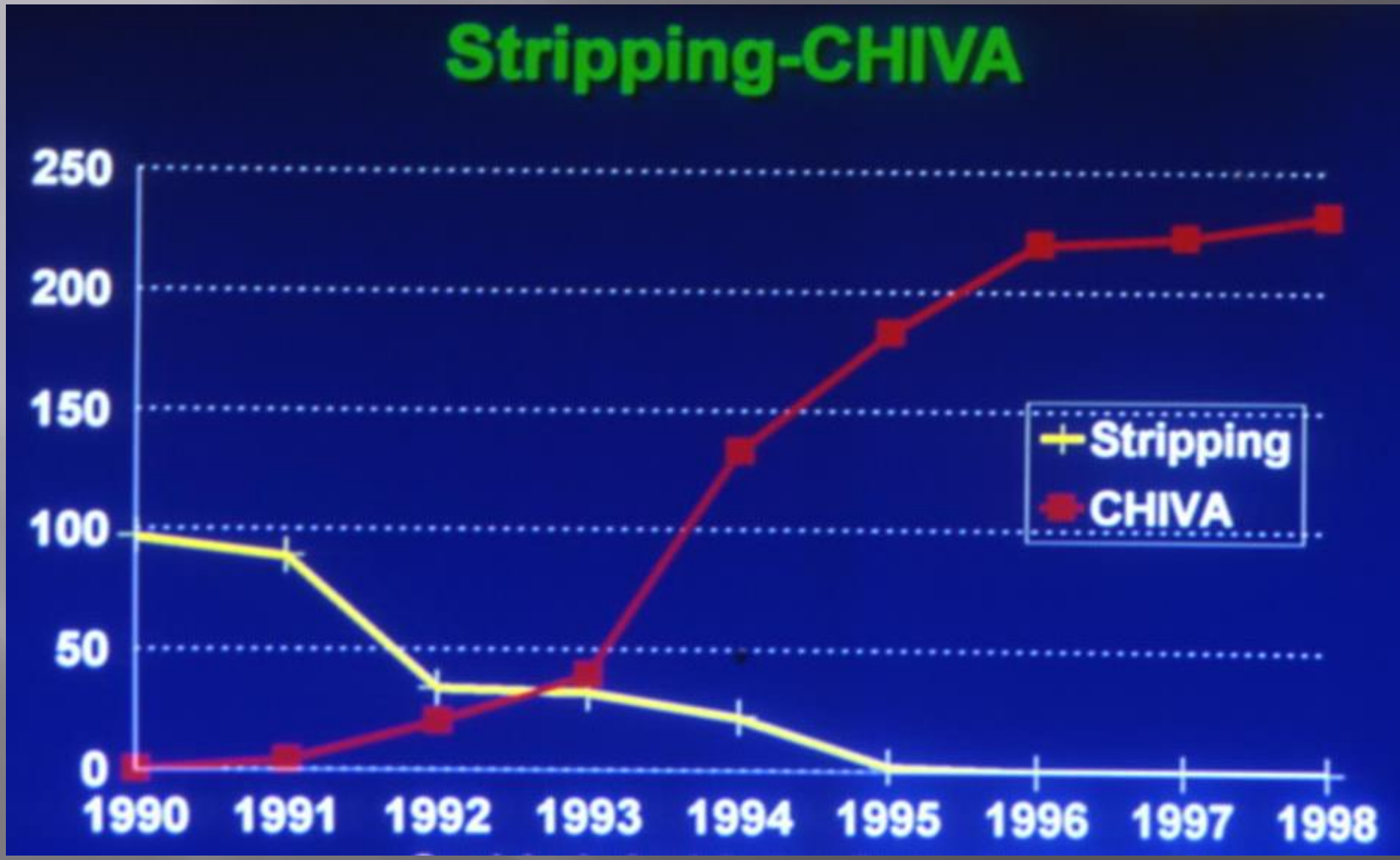
DEBATE. Do we have to preserve the saphenous vein?

- Yes, Jordi Maeso Lebrun
- Not mandatory, Gilbert Franco

Jordi Maeso Lebrun,
Servei d' Angiologia, Cirurgia Vascular i Endovascular
Hospital General Universitari Vall d'Hebron
Barcelona

DISCLOSURES

JE SUIS ÉCOLOGISTE


Stripping-CHIVA
250
200
150
100
50
0
1990
1991
1992
1993
1994
1995
1996
1997
1998
Stripping
CHIVA

Why have we preserve saphenous vein ?

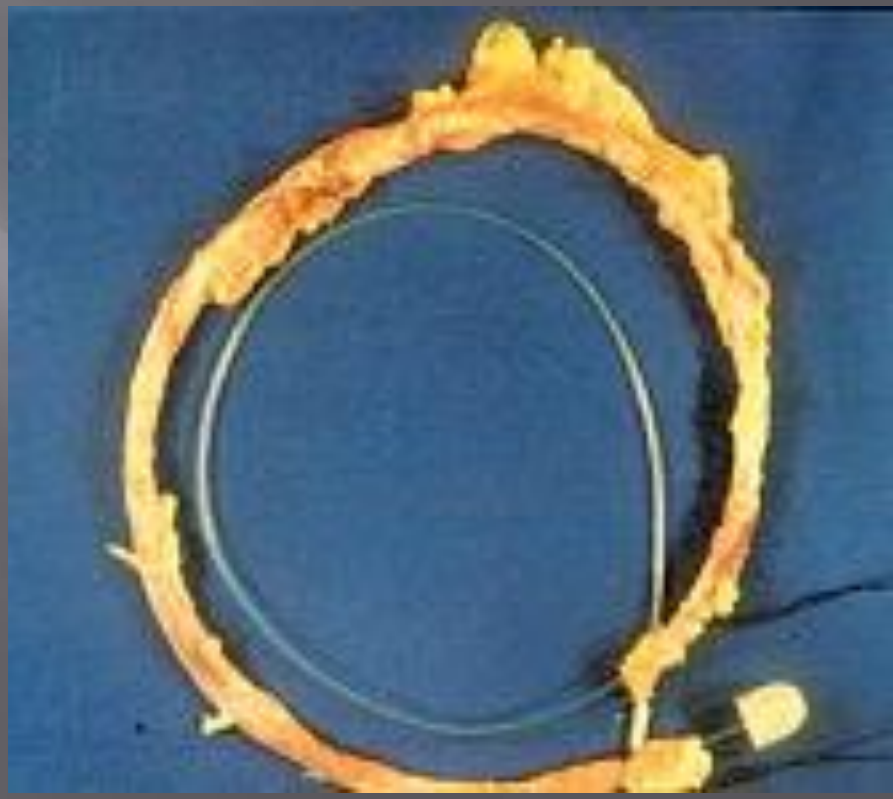
1. NO REASONS FOR SAPHENOUS ABLATION
2. TO ACHIEVE A DRAINING SYSTEM
3. THE SAPHENOUS DIAMETER DECREASES AFTER CHIVA
4. UTILITY OF SAPHENOUS VEIN
5. EVIDENCE OF GOOD RESULTS IN WELL CONDUCTED RANDOMIZED TRIALS

Why have we preserve saphenous vein ?

1. NO REASONS FOR SAPHENOUS ABLATION
2. TO ACHIEVE A DRAINING SYSTEM
3. THE SAPHENOUS DIAMETER DECREASES AFTER CHIVA
4. UTILITY OF SAPHENOUS VEIN
5. EVIDENCE OF GOOD RESULTS IN WELL CONDUCTED RANDOMIZED TRIALS

No reasons for saphenous vein ablation

WHY DESTROY, BURN OR HARM SAPHENOUS VEIN?



No reasons for saphenous vein ablation

CHRONIC VENOUS INSUFFICIENCY IS A BENIGN DISEASE

TRADITION? FEAR OF CHANGE?

EASY? JUST PULL IT OUT!

INDUSTRIE?

MANY QUESTIONS… FEW ANSWERS

Why have we preserve saphenous vein ?

1. NO REASONS FOR SAPHENOUS ABLATION
2. TO ACHIEVE A DRAINING SYSTEM
3. THE SAPHENOUS DIAMETER DECREASES AFTER CHIVA
4. UTILITY OF SAPHENOUS VEIN
5. EVIDENCE OF GOOD RESULTS IN WELL CONDUCTED RANDOMIZED TRIALS

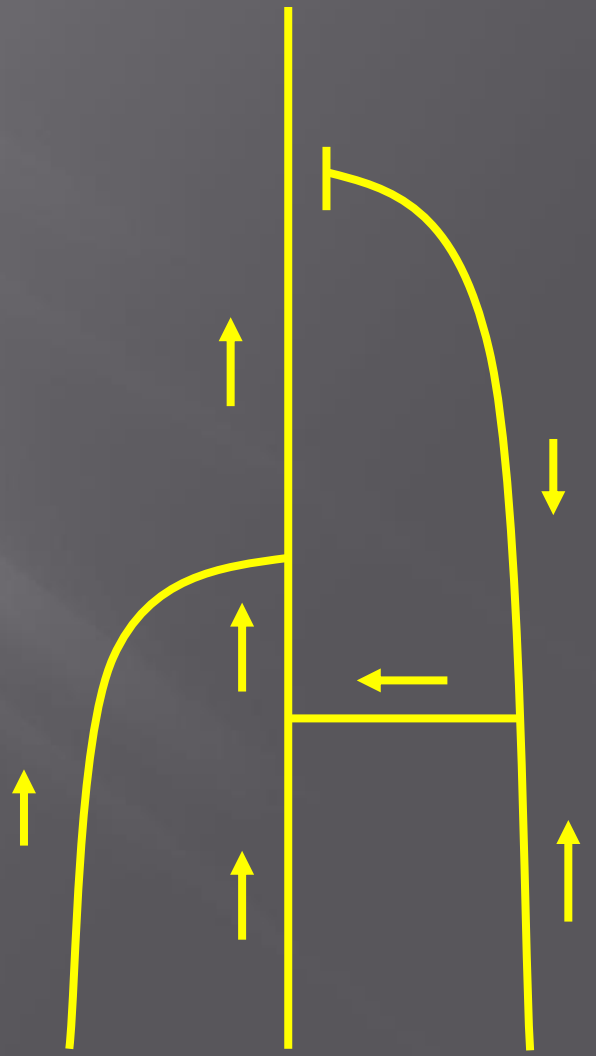
To achieve a drained system

ONE OF THE FUNCTIONS OF THE VEINS IS TO DRAIN THE BLOOD

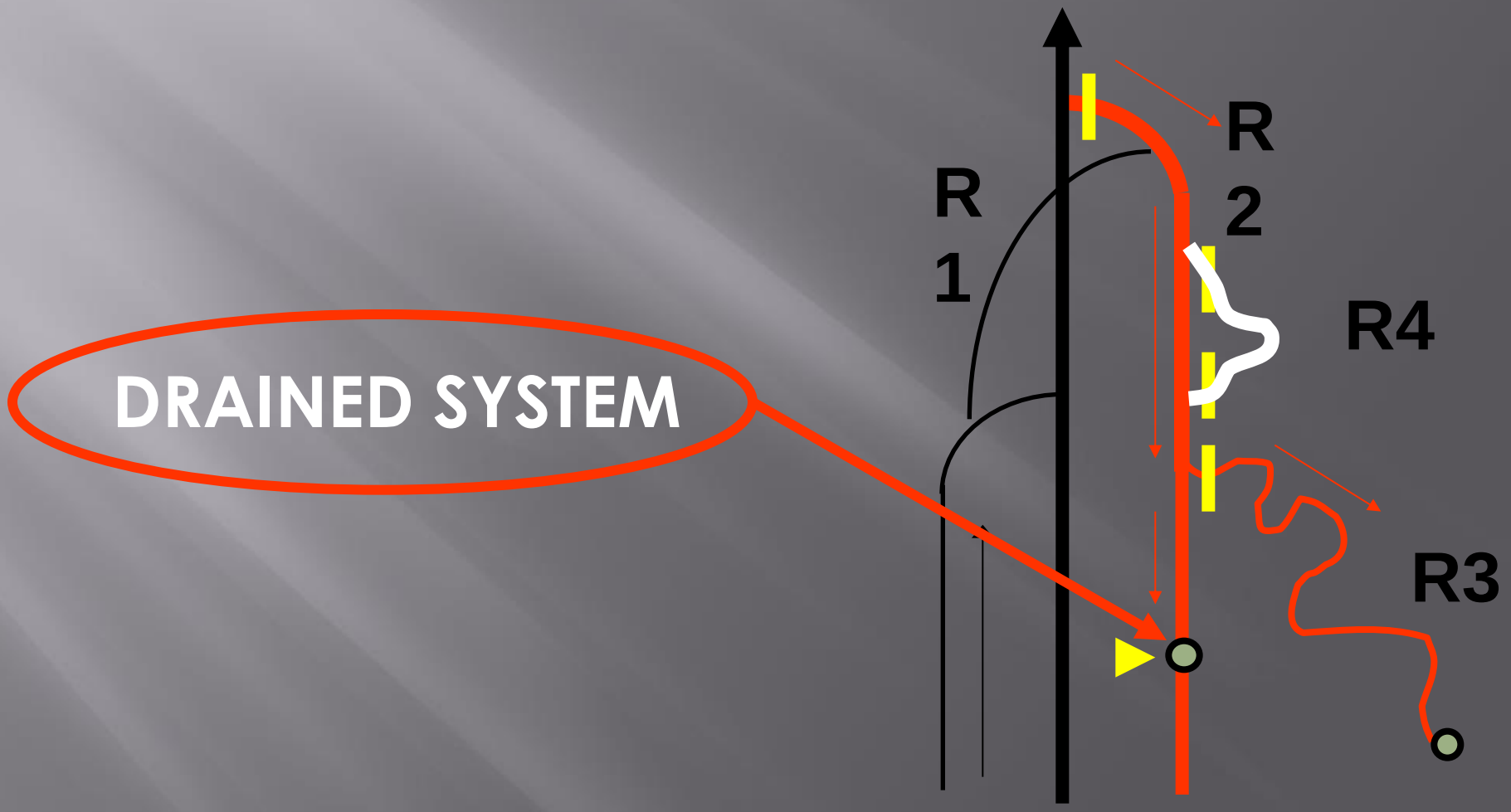
A DRAINING SYSTEM IS THE PHYSIOLOGICAL SYSTEM

LONG TERM CLINICAL RESULTS ARE BETTER WHEN WE HAVE A DRAINING SYSTEM

RECURENT VARICOSE VEINS AFTER A DRAINING TREATMENT ARE EASIER MANAGED



To achieve a drained system



Franceschi C. Théorie et pratique de la cure conservatrice de l'insuffisance veineuse en ambulatoire. Précy-sous-Thil: Editions de l'Armançon; 1988.

To achieve a drained system

WITHOUT A DRAINING SYSTEM, THE BLOOD HAS TO GO SOMEWHERE, AND TELANGECTASIES OR NEW VARICOSE VEINS APPEAR

NATURE IS WISE, EVERYTHING EXISTS FOR A REASON.

WHY SHOULD WE REMOVE IT?

Why have we preserve saphenous vein ?

1. NO REASONS FOR SAPHENOUS ABLATION
2. TO ACHIEVE A DRAINED SYSTEM
3. THE SAPHENOUS DIAMETER DECREASES AFTER CHIVA
4. UTILITY OF SAPHENOUS VEIN
5. EVIDENCE OF GOOD RESULTS IN WELL CONDUCTED RANDOMIZED TRIALS

The saphenous diameter decreases after CHIVA

Durability of Reflux-elimination by a Minimal Invasive CHIVA Procedure on Patients with Varicose Veins. A 3-year Prospective Case Study

J. M. Escribano*, J. Juan, R. Bofill, J. Maeso, A. Rodríguez-Mori and M. Matas

Objectives: *to assess the outcome of a conservative and haemodynamic method for insufficient veins on an ambulatory basis (French acronym, "CHIVA") with preservation of the greater saphenous vein (GSV) for treatment of primary varicose veins.*

Methods: *duplex incompetence of the sapheno-femoral junction (SFJ) and the GSV trunk, with the re-entry perforating point located on a GSV tributary was demonstrated in 58 patients with varices (58 limbs). The re-entry point was defined as the perforator, whose compression of the superficial vein above its opening eliminates reflux in the GSV. Duplex scanning was performed preoperatively and at 7 days, and patients were followed prospectively at 1, 3, 6, 12, 24, and 36 months after CHIVA. Operation consisted in flush ligation and division from the GSV of the tributary containing the re-entry perforating vein (no additional high ligation is included). If reflux returned, SFJ interruption was performed in a second surgical procedure.*

Results: *the GSV diameter showed an average reduction from 6.6 to 3.9 mm 36 months after surgery. Reflux in the GSV system was demonstrated in all but five (8%) patients. Of the 53 patients with recurrent reflux, 46 underwent SFJ interruption.*

Conclusions: *elimination of reflux in the GSV after the interruption of insufficient collaterals is only temporary.*

Eur J Vasc Endovasc Surg **25**, 159–163 (2003)

Why have we preserve saphenous vein ?

1. NO REASONS FOR SAPHENOUS ABLATION
2. TO ACHIEVE A DRAINED SYSTEM
3. THE SAPHENOUS DIAMETER DECREASES AFTER CHIVA
4. UTILITY OF SAPHENOUS VEIN
5. EVIDENCE OF GOOD RESULTS IN WELL CONDUCTED RANDOMIZED TRIALS

Utility of saphenous vein

POURQUOI ET QUAND PRÉSERVER LES SAPHÈNES DES MALADES VARIQUEUX POUVANT SERVIR A UN PONTAGE ARTÉRIEL ?

Mellière D.

Why and when to preserve the saphenous veins of varicose patients to serve as an arterial bypass?

The greater saphenous veins (GSV) are the best substitut for arterial in several locations and are often the only convenient graft. As patients consult for varicose veins at an increasingly younger age and since surgery for varicose veins has become quite popular, there is a risk of unneeded destruction of saphenous veins which will be lacking later. Approximately 80 % of the GSV veins in patients consulting for varcosities are normal, slightly dilated or simply have one or more minor areas of dilatation. A special Dacron sheath can be used to maintain these areas of dilatation. The cases presented here demonstrate that these bypass remain patent and that non-sheated areas do not undergo undue dilatation. This technique makes it possible to widen the use of GSV in a larger number of patients with varicose veins.

Consequently, it is necessary to verify the caliber of the trunk of GSV during the écho-Doppler examination before treating patients with varicose veins. Suitable GSV should be conserved during initial treatment. Patients should be well informed of the rationale for such decisions, especially concerning the chronological delay between the occurence of venous varicosities and arterial disease.

J Mal Vasc. 1994;19(3):216-21.

Why have we preserve saphenous vein ?

1. NO REASONS FOR SAPHENOUS ABLATION
2. TO ACHIEVE A DRAINED SYSTEM
3. THE SAPHENOUS DIAMETER DECREASES AFTER CHIVA
4. UTILITY OF SAPHENOUS VEIN
5. EVIDENCE OF GOOD RESULTS IN WELL CONDUCTED RANDOMIZED TRIALS

Evidence of good results in well conducted randomized trials

There are no randomised trials REPORTING LONG TERM results of ablative saphenous vein techniques.

WE HAVE 4 ABOUT CHIVA

COMPARATIVE STUDY OF TWO SURGICAL TECHNIQUES IN THE TREATMENT OF VARICOSE VEINS IN THE LOWER EXTREMITIES: RESULTS FROM A FIVE-YEAR FOLLOW-UP

E. Iborra-Ortega, E. Barjau-Urrea, R. Vila-Coll,
H. Ballón-Carazas, M.A. Cairols-Castellote

Summary. Aim. *To compare late outcomes of conventional vein stripping with the CHIVA strategy in the treatment of varicose veins in the lower extremities.* Patients and methods. *A clinical trial on 100 patients with varicose veins: 62 females and 38 males with a mean age of 49 years (standard deviation, SD: 9.24). Eligibility criteria were those recommended by the SEACV (varicose veins that were apparent to a greater or lesser extent with different degrees of chronic venous insufficiency). Exclusion criteria were the past history of previous treatments (sclerosis or surgery), disorders affecting the deep vein system, morbid obesity and/or the patient's being over 70 years old. A blood map was performed using a Doppler ultrasound equipment. Patients were divided into group I (vein stripping;* n = *49), and group II (CHIVA;* n = *51). Both groups were demographically and clinically homogenous (CEAP classification). Haemodynamic and clinical controls were performed during the first week and at the first, third and sixth month after surgery and then every year until five years' follow-up. The clinical features and the (objective and subjective) aesthetic outcomes were analysed, together with the numbers of reinterventions and recurrences. Chi squared and Student's* t *tests were applied for the statistical analysis.* Results. *The whole (five-year) follow-up was completed by 96% of the patients. The clinical and aesthetic outcomes five years after the operation do not display any significant differences between the two techniques. The number of reinterventions was similar in the two groups. No statistically significant differences were detected as far as recurrence of the varicose syndrome was concerned (*p > *0.05).* Conclusions. *In our series, both surgical techniques offered similar clinical and aesthetic outcomes after five years' follow-up.*

ANGIOLOGIA 2006; 58: 459-68

Varicose Vein Stripping vs Haemodynamic Correction (CHIVA): a Long Term Randomised Trial☆

S. Carandina, C. Mari, M. De Palma, M.G. Marcellino, C. Cisno, A. Legnaro, A. Liboni and P. Zamboni*

Objectives. *To compare the long-term results of stripping vs. haemodynamic correction (Ambulatory Conservative Haemodynamic Management of Varicose Veins, CHIVA) in the treatment of superficial venous incompetence resulting in chronic venous disease (CVD).*

Design. *Randomised comparative trial.*

Patients. *150 patients affected by CVD, CEAP clinical class 2–6, were randomised to saphenous stripping or to CHIVA.*

Methods. *The clinical outcome was assessed by an independent observer who recorded the Hobbs clinical score for treated limbs. A subjective report of the outcome was provided by the patients. Recurrence of varices was assessed by both clinical examination and duplex ultrasonography.*

Results. *The mean follow-up was 10 years, 26 patients were lost to follow-up. The Hobbs score similar in the stripping and CHIVA groups. However recurrence of varicose veins was significantly higher in the stripping group (CHIVA 18%; stripping 35%, $P < 0.04$ Fisher's exact test), without significant differences in the rate of recurrences from the sapheno-femoral junction. The associated risk of recurrence at ten years was doubled in the stripping group (OR 2.2, 95% CI 1–5, $P = 0.04$).*

Conclusions. *Recurrent varices occurred more frequently following saphenous stripping than after CHIVA treatment. The deliberate preservation of the saphenous trunk as a route of venous drainage in the CHIVA group may have been a factor reducing the recurrence rate.*

Eur J Vasc Endovasc Surg 35, 230–237 (2008)

Varicose Vein Surgery

Stripping Versus the CHIVA Method: A Randomized Controlled Trial

Josep Oriol Parés, MD, Jordi Juan, MD,† Rafael Tellez, MD,* Antoni Mata, MD,* Coloma Moreno, MD,‡ Francesc Xavier Quer, MD,§ David Suarez, PhD,¶ Isabel Codony, MD,§ and Josep Roca, MD§*

Objective: The objective of this randomized study was to compare the efficacy of the CHIVA method for the treatment of varicose veins with respect to the standard treatment of stripping.

Methods: In this open-label, randomized controlled trial, 501 adult patients with primary varicose veins were treated in a single center. They were assigned to an experimental group, the CHIVA method (n = 167) and 2 control groups: stripping with clinic marking (n = 167) and stripping with duplex marking (n = 167). The outcome measure was clinical recurrence within 5 years, assessed clinically by previously trained independent observers. Duplex ultrasonography was also used to assess recurrences and causes.

Ann Surg 2010;251: 624–631

Results: In an intention-to-treat analysis, clinical outcomes in the CHIVA group were better (44.3% cure, 24.6% improvement, 31.1% failure) than in both the stripping with clinic marking (21.0% cure, 26.3% improvement, 52.7% failure) and stripping with duplex marking (29.3% cure, 22.8% improvement, 47.9% failure) groups. The ordinal odds ratio between the stripping with clinic marking and CHIVA groups, of recurrence at 5 years of follow-up, was 2.64, (95% confidence interval [CI]: 1.76–3.97, $P < 0.001$). The ordinal odds ratio of recurrence at 5-years of follow-up, between the stripping with duplex marking and CHIVA group, was 2.01 (95% CI: 1.34–3.00, $P < 0.001$). This trial is registered at ISRCTN and carries the following ID number: ISRCTN52861672, available at: http://isrctn.org.

Conclusions: The present results indicate that, thanks to specific venous hemodynamic evaluation, the CHIVA method is more effective than stripping with clinical marking or stripping with duplex marking to treat varicose veins. When carrying out a stripping intervention, Duplex marking does not improve the clinical results of this ablative technique.

Ann Surg 2010;251: 624–631

CHIVA method for the treatment of chronic venous insufficiency (Review)

Bellmunt-Montoya S, Escribano JM, Dilme J, Martinez-Zapata MJ

THE COCHRANE COLLABORATION®

Objectives

To compare the efficacy and safety of the CHIVA method with alternative therapeutic techniques to treat varicose veins.

Main results

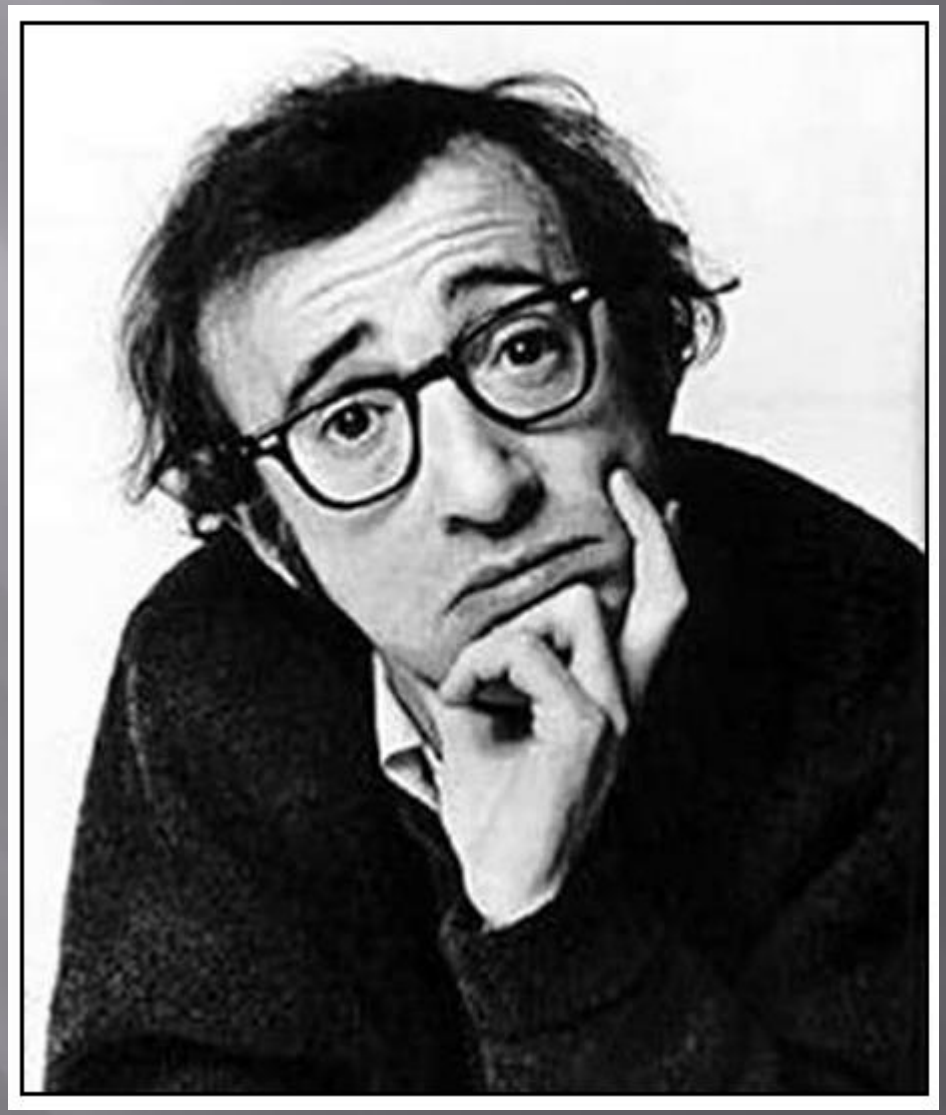
No new studies were identified for this update. We included four RCTs with 796 participants (70.5% women). Three RCTs compared the CHIVA method with vein stripping, and one RCT compared the CHIVA method with compression dressings in people with venous ulcers. We judged the quality of the evidence of the included studies as low to moderate due to imprecision caused by the low number of events and because the studies were open. The overall risk of bias across studies was high because neither participants nor outcome assessors were blinded to the interventions. The primary endpoint, clinical recurrence, pooled between studies over a follow-up of 3 to 10 years, showed more favorable results for the CHIVA method than for vein stripping (721 people; RR 0.63; 95% CI 0.51 to 0.78; I^2 = 0%, NNTB 6; 95% CI 4 to 10) or compression dressings (47 people; RR 0.23; 95% CI 0.06 to 0.96; NNTB 3; 95% CI 2 to 17). Only one study reported data on quality of life (presented graphically) and these results significantly favored the CHIVA method.

The vein stripping group had a higher risk of side effects than the CHIVA group; specifically, the RR for bruising was 0.63 (95% CI 0.53 to 0.76; NNTH 4; 95% CI 3 to 6) and the RR for nerve damage was 0.05 (95% CI 0.01 to 0.38; I^2 = 0%; NNTH 12; 95% CI 9 to 20). There were no statistically significant differences between groups regarding the incidence of limb infection and superficial vein thrombosis.

The CHIVA method reduces recurrence of varicose veins and produces fewer side effects than vein stripping

Authors' conclusions

The CHIVA method reduces recurrence of varicose veins and produces fewer side effects than vein stripping. However, we based these conclusions on a small number of trials with a high risk of bias as the effects of surgery could not be concealed and the results were imprecise due to low number of events. New RCTs are needed to confirm these results and to compare CHIVA with approaches other than open surgery.



Don’t touch my saphenous vein; it’s my third most favorite organ

MEDITATE

SAVE SAPHENOUS VEIN