

Ethics and rationale for sparing the saphenous vein

Claude Franceschi

Saint Joseph Hospital, Paris, France

In the 80s, faced with the absence of great saphenous veins (previously destroyed by stripping or endovenous techniques) in patients who had a functional or even vital need for venous bypass surgery, I sought a method of conservative treatment. Thanks to the contribution of echodoppler, I was able to reconsider the venous physiopathology of varicose veins of the lower limbs, particularly in its hemodynamic aspect, and to propose a conservative haemodynamic treatment of the great saphenous vein (GSV) called CHIVA, which has proved for more than 30 years to be equivalent to, if not better than destructive treatments.¹⁻²

The loss of the best material for arterial reconstruction due to the ablation of the GSV for treating a benign venous disease is in my opinion unethical, especially when an existing effective treatment is available, even by using the actual endovascular techniques.³ The rationale for sparing the GSV is based on the following considerations:

Is the great saphenous vein still the best bypass material?

There is no doubt in answering yes. The most recent studies and systematic reviews demonstrate the superiority of GSV over prosthetic materials for peripheral arterial bypass surgery, particularly below the knee.⁴⁻⁵ Other studies demonstrate the equivalence between the GSV, harvested by the “no touch” method, and the thoracic artery.⁶

Is the GSV of a varicose subject suitable for an arterial bypass?

The common definition of varicose veins as dilated, irregular, tortuous, and incompetent veins, cannot be clearly applied to the trunk of the GSV in subjects with varices. Can we consider as varicose the saphenous trunk at the thigh, even though in most cases it is regular and with a diameter not exceeding 6 to 7 mm?

Stripped GSV of caliber ranging from 3.5 to 10 mm, frozen by an organ bank (Bioprotec, Saint Priest, France), are currently available on the market. Between the

years 2020 and 2021, 12.846 GSV stripped or taken from cadavers have been frozen, and 3.444 patients have been grafted. These allografts are less effective than autologous ones. However, this means there were 3.444 patients in France in 1 year who did not have eligible GSV.⁷

Moreover, dilated and irregular GSV trunks may have eligible regular segments. The latter can be connected by the means of various techniques, demonstrating satisfactory outcomes.⁸⁻¹⁰

Finally, histology of incompetent GSV which have been previously treated by CHIVA shows a normal wall and calibre.¹¹

While giving better results than stripping,¹ and equivalent or slightly better than endovenous ablation,² the CHIVA cure offers the invaluable advantage of preserving the chance to treat high morbidity/mortality arterial disease by using the best available graft.

Thus, my initial project of sparing the GSV of a varicose vein patient, for an eventual subsequent arterial pathology, has been successful. I hope that this strategy will be adopted by more and more colleagues for the benefit of a greater number of patients.

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Correspondence: Claude Franceschi, Saint Joseph Hospital, Paris, France

Received for publication: 22 August 2022.

Accepted for publication: 22 August 2022.

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Veins and Lymphatics 2022; 11:10809

doi:10.4081/vl.2022.10809

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