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A study on the diameter of the great saphenous vein shows:

Sclerotherapy is indicated in most patients

The therapeutic procedure for varicose veins depends on a number of factors. The diameter of the incompetent great saphenous vein is a key deciding factor in the choice of treatment for trunk varicose veins.[1] A recent observational study by the French Society of Phlebology has shown that almost two-thirds of patients attending phlebology practices for vein problems have a great saphenous vein diameter of less than 6 mm – providing an optimal indication for foam sclerotherapy.[2] Trunk veins measuring more than 8 mm were found in only 8% of all patients. Minimally invasive sclerotherapy achieves demonstrably high occlusion rates, especially in vessels with a small lumen, and additionally offers an extremely safe, patient-friendly and cost-effective alternative to other endovenous and surgical methods of treatment.[3,4,5,6,7]

Varicose veins are a chronically progressive disease with a high prevalence.[8,9] Left untreated, they may lead to complications such as trophic skin changes and venous leg ulcers as well as increasing the risk of deep vein thrombosis.[7] Nowadays, numerous effective and minimally invasive therapeutic options are available for treating varicose veins. According to a worldwide online survey of more than 200 surgeons, dermatologists and angiologists, one of the deciding factors for the treating physician is the diameter of the great saphenous vein.[1] As a general rule, the procedure should also be as minimally invasive as possible, as emphasised in the German guideline on the treatment of varicose

[1] van der Velden et al.: Management strategies for patients with varicose veins (C2-C6): results of a worldwide survey. Eur J Vasc Endovasc Surg. 2015; 49(2):213-20.
[2] Hamel-Desnos et al.: Great Saphenous Vein Diameters in Phlebological Practice in France: A Report of the DIAGRAVES Study by the French Society of Phlebology. Eur J Vasc Endovasc Surg. 2018.
[3] Wittens et al.: Editor's Choice - Management of chronic venous disease: clinical practice guidelines of the European society for vascular surgery (ESVS). Eur J Vasc Endovasc Surg. 2015; 49:678-737.
[4] Varicose veins: diagnosis and management. Clinical guideline [CG168]. Published date: July 2013 (http://guidance.nice.org.uk/CG168).
[5] Rabe et al. Leitlinie: Sklerosierungsbehandlung der Varikose der Deutschen Gesellschaft für Phlebologie. Phlebologie 2012; 41:206-13.
[6] Rabe et al.: European guidelines for sclerotherapy in chronic venous disorders. Phlebology. 2014; 29(6):338-54.
[7] Kluess et al.: Leitlinie zur Diagnostik und Therapie der Krampfadererkrankung der Deutschen Gesellschaft für Phlebologie, der Deutschen Gesellschaft für Gefäßchirurgie, des Berufsverbandes der Phlebologen e.V. und der Arbeitsgemeinschaft der niedergelassenen Gefäßchirurgen Deutschlands e.V.*(ICD 10: I83.0, I83.1, I83.2, I83.9) Entwicklungsstufe S2. Phlebologie 2010; 39: 271–89.
[8] Rabe et al.: Bonner Venenstudie der Deutschen Gesellschaft für Phlebologie. Epidemiologische Untersuchung zur Frage der Häufigkeit und Ausprägung von chronischen Venenkrankheiten in der städtischen und ländlichen Wohnbevölkerung. Phlebologie. 2003;32:1-14.
[9] Rabe et al.: Epidemiology of chronic venous disorders in geographically diverse populations: results from the Vein Consult Program. Int Angiol. 2012; 31(2):105-15.

vein disease[7] – a requirement that is well met by sclerotherapy.

Study investigates the correlation between vein diameter and reflux

A recent multicentre observational study carried out by the French Society of Phlebology, Paris,[2] showed that the great saphenous vein in the majority of patients with trunk varicose veins in France tends to have a fairly small diameter and is therefore optimally suited to gentle methods of treatment. In the DIAGRAVES (DIAmètres de GRAndes VEines Saphènes) study, doctors examined 2450 legs in 1245 affected patients, most of whom (77%) were women. According to the CEAP classification, about three-quarters of the cases were graded as C1 (35%) or C2 (38%) and about 10% as C3. By contrast, more advanced stages with skin changes or leg ulcers were present in only about 8% of the participants. Reflux in the great saphenous vein was found in 40% of the legs. The diameter of the incompetent trunk vein was 5.6 mm on average, whereby 62% measured less than 6 mm, 30% between 6 mm and 8 mm and only 8% measured more than 8 mm. The larger the diameter, the more the participants complained of symptoms such as pain and swollen legs and the higher was their CEAP score. The results of this study confirm the findings of earlier epidemiological studies, which suggested that increasing importance is being attached to the early treatment of varicose veins in highly developed countries and that, as a result, venous leg ulcers are occurring less and less frequently. [9]

The authors advocate sclerotherapy as the treatment method

The authors of the DIAGRAVES study consider the diameter of the great saphenous vein to be an important diagnostic tool, as a smaller diameter further improves the changes of success with sclerotherapy.[5,10,11] This procedure de facto represents an excellent alternative to endovenous thermal or surgical treatment, particularly for diameters ranging from below 6 mm up to 8 mm, as were found in the majority of the participants in the study.[12] Sclerotherapy has a long tradition in France – possibly because of the greater aesthetic awareness that exists there – and even spider veins are more frequently sclerosed than in Germany, for example. The method has gained in popularity for the treatment of trunk varicose veins since the introduction of

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[10] Rabe et al.: Efficacy and safety of great saphenous vein sclerotherapy using standardised polidocanol foam (ESAF): a randomised controlled multicentre clinical trial. Eur J Vasc Endovasc Surg. 2008; 35(2):238-45.

[11] Myers et al.: Factors affecting the risk of deep venous occlusion after ultrasound-guided sclerotherapy for varicose veins. Eur J Vasc Endovasc Surg. 2008; 36(5):602-5.

[12] Shadid et al.: Predictors of recurrence of great saphenous vein reflux following treatment with ultrasound-guided foam sclerotherapy. Phlebology. 2015; 30(3):194-9.

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ultrasound-guided foam sclerotherapy.[7] A recently published study found the occlusion rate to be more than 90% at follow-up after five years.[13] Besides the method's good success rates, patients tolerate sclerotherapy very well: it can be carried out without an anaesthetic and generally does not require the patient to take time off work. The method therefore not only complies with the phlebology guideline[7], but also meets the patients' preference for as gentle a procedure as possible. The clearly lower costs (compared with other procedures)[2] are also convincing and provide a further important argument for both the phlebological practice and the patient concerned.

You can find more information at www.healthy-veins.com.

[13] Baeshko et al.: Results of Ultrasound-Guided Foam Sclerotherapy of the Great Saphenous Vein with New Parameters of the Technique. Vasc Endovascular Surg. 2016; 50(8):528-533.