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Case Report
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Saphenion® – Varicose Vein Therapy during Pregnancy: Indications? An Extraordinary Case Report

*Ulf Thorsten Zierau**

Saphenion® Vein Care Center Berlin/Rostock, Germany

Abstract

Pregnancy varicose veins can be diagnosed in around 40% of all expectant mothers. In clinical and sonographic examinations, we differentiate between the cosmetically disturbing reticular veins/ spider veins and the manifest truncal and lateral varicose veins. What can we do in cases of painful truncal varicose veins?

Keywords: Varicose veins in pregnancy; Non-thermal; Non-tumescent varicose vein therapy; Vein glue therapy in pregnancy

Introduction

Saphenion® – Varicose vein therapy during pregnancy: Pregnancy varicose veins can be diagnosed in around 40% of all expectant mothers. In clinical and sonographic examinations, we differentiate between the cosmetically disturbing reticular veins/spider veins and the manifest truncal and lateral varicose veins.

While the former is only cosmetically disruptive, trunk and side branch varicose veins represent a serious functional and complication-prone problem [1,2].

What are the special features of the development and how should you react to this as a patient and as a vascular specialist in these special 9 months?

Case Presentation

Saphenion® - Varicose vein therapy during pregnancy

We want to report on a 28 year old female patient. This presented itself for the first time in January 2020 with a known familial truncal varicose in our Rostock practice. The diagnosis was GSV - varicose both legs and SSV - varicose right leg. At this first examination, the women patient was already pregnant, so that we initially saw no indication for invasive surgical or endovenous therapy. We planned the therapy of the truncal varicose veins and side branches with vein glue for the time 6 months after the planned delivery (Figure 1).

Unfortunately, there was a stillbirth and a COVID-19 contact, so that the planned endovenous therapy had to be postponed first.

In February 2021, the patient contacted us again with the request to treat the painful left great saphenous vein [3]. Surprisingly, the patient was pregnant again. However, after talking to the gynecologist and a psychotherapist, she wanted rapid treatment for the painful left GSV during pregnancy.

The reason for this consequent decision was the memories of the last pregnancy. The patient reported heavy pain in the left GSV during birth pangs, which was more severe than the actual delivery.

She wanted to avoid the pain she had experienced when she was pregnant at first time.

After intensive discussions with the patient and her boyfriend and father of the unborn child, we decided on anesthesia-free therapy using the non-thermal vein glue VenaSeal®, only a one-time thrombosis prophylaxis was injected. We have treated the GSV and the VSAM left leg [4-7].

Discussion

The pathology

In addition to the genetic makeup of varicose veins, particular biochemical and mechanical

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***Correspondence:**
Ulf Thorsten Zierau, Saphenion® Vein Care Center Berlin/Rostock, Germany, E-mail: dr.zierau@yahoo.de

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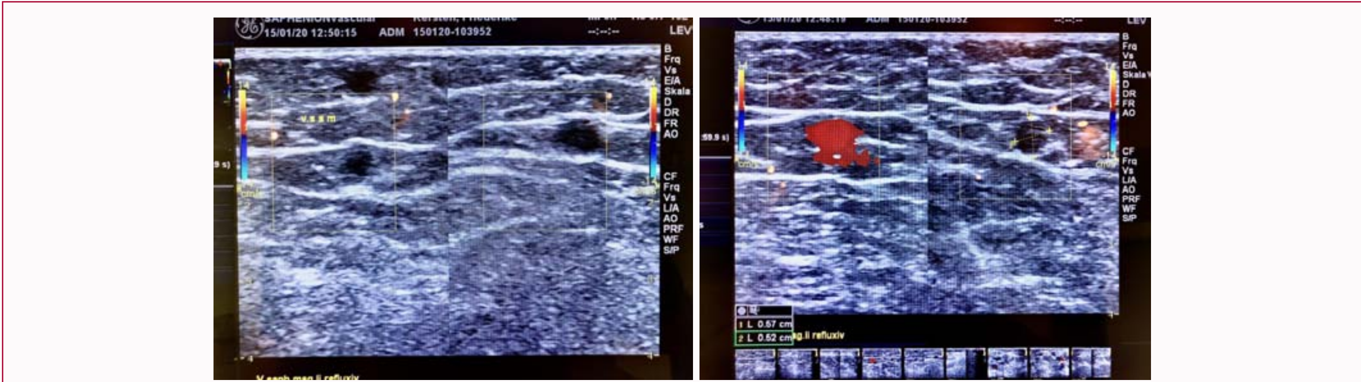


Figure 1: Duplex sonography pare op GSV and VSAM left leg.

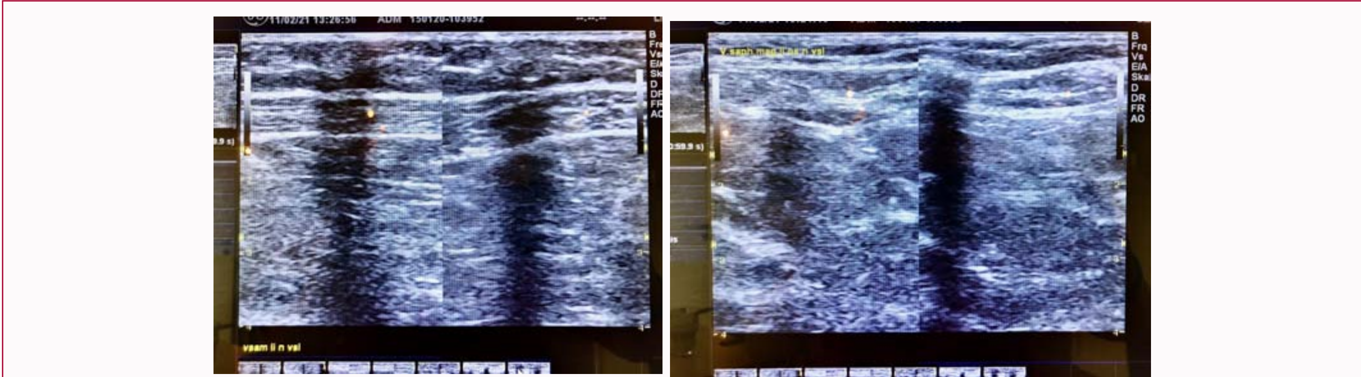


Figure 2: Post operative ultrasound - VenaSeal® closure of GSV and VSAM left leg.

changes in pregnancy play a major cause. The increased release of the hormone estradiol not only has an emollient function on the connective tissue and the vein walls but also leads to an expansion of the skin and truncal veins.

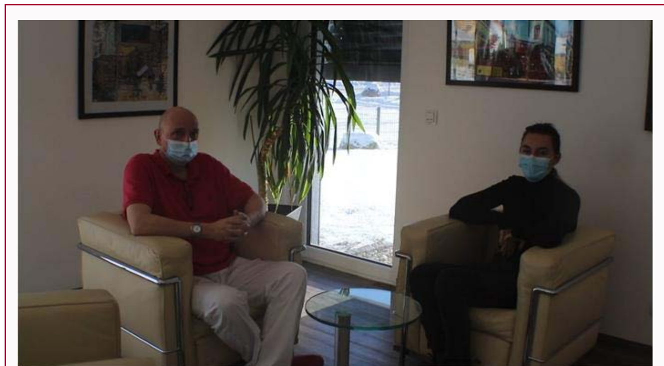
The specialist draws attention to the fact that patients experience pain in their varicose legs shortly before and during the first two days of their period. The cause is an increased production of the hormone estradiol. Pregnancy has exactly the same effect; here too the production of estradiol is increased.

In this context, it is also interesting that the estradiol concentration in the varicose vein blood of the legs is up to 800 times higher than in the arm vein! In addition, the hormone receptors for estrogens are also increased in varicose vein patients – one of the histological and cellular causes of the development of varicose veins.

In addition, during pregnancy, there is an organically induced, drastically increased pressure load on the pelvic and leg veins. If there are already defective venous valves, the reflux of the venous blood back into the lower leg is considerable. At the same time, the pressure in the abdominal cavity increases considerably as the baby grows, so that the inferior vena cava and the pelvic veins are exposed to considerable pressure and also impede the outflow of venous blood from the leg. The increased pressure and dilated leg veins then produce the typical leg edemas and symptoms of the heavy and swollen leg [8-10].

The therapy options

The classic therapy methods here are compression therapy with made-to-measure stockings or, better still, tights, manual lymph and tissue massages and alternating showers, cold showers and lots of exercises – midwives and obstetricians are very familiar with this



Youtube video link - Interview with the female patient after sealing veins: https://www.youtube.com/watch?v=F0xOWiye00g

(http://www.babycenter.de/a8586/krampfadern).

The situation is different with functionally defective side branches and truncal varicose veins. Incidentally, these do not, as is known from reticulate veins and spider veins, largely regress after delivery and weaning! There is a risk of serious complications, such as phlebitis or even thrombosis, especially during pregnancy (hormones and mechanical stress). So far, the dogma has been that no active therapy methods are used to treat truncal varicose veins during pregnancy!

The phlebitis/thrombosis

Phlebitis is treated with compression therapy, administration of antithrombotic drugs that are not common to the placenta, and, if necessary, the suction of the thrombosed blood from the inflamed vein. Under certain circumstances, however, under prophylactic

aspects, active therapy on the truncal varicose veins is necessary. This must not result in anesthesia or large-scale injections of local anesthetics, as these drugs also reach the fetus *via* the placenta. A small local anesthetic must be enough! Conventional methods, stripping and phlebectomy are completely eliminated; lasers and radio waves are not possible without general anesthesia or tumescence [11,12].

The varicose veins

For 9 years in clinical use, a catheter-supported procedure with the necessary criteria also for use during pregnancy has been available to us today – vein glueing using VenaSeal® – Closure. Anesthesia is no longer necessary, the glue cannot cross the placenta after extensive tests by the American health authority FDA and the pregnant woman is in no way immobilized after the minimally invasive catheter procedure. Under strict consideration of the indications for this procedure – serious phlebitis and threatened thrombosis as well as severe infectious skin changes and ulcerations – this can be carried out after comprehensive information [13-17].

In addition, in the case of serious findings or congenital coagulation defects, prophylaxis with medication using special heparin preparations is recommended during the entire pregnancy.

Microfoam therapy for the visible reticulate and spider veins is not indicated, as cosmetic reasons should not play a role in the indication during pregnancy. Here you have to wait and see – until weaning because only then will the final postpartum findings be known.

In any case, if there are corresponding findings during pregnancy, a vascular surgeon/phlebologist should be consulted and a corresponding professional analysis and diagnosis should be sought with therapy recommendation. This also includes a perspective view of necessary treatment decisions after delivery [18-26].

After the intervention with the vein glue - 4 weeks later - we have seen a normal clinical and ultrasound picture (Figure 2) (Video).

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