Saphenion science-vein glue allergy? Is there a significant risk?

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In a few specialist comments, presentations and articles by phlebologically active colleagues is repeatedly warned against the emergence of an allergy to the cyanoacrylate used in the vein glue. Actually a presentation at UIP-meeting in Krakow (Poland).

Reason enough for us to compare our own experience with the use of the vein glue with the worldwide specialist literature. We conducted a literature search on Sage Journals and Pub Med–the US National Library of Public Health Institutes on „cyanoacrylate glue, allergy.

Key Words: *Cyanoaccrylate allergy; Vein glue allergy; Allergy of VenaSeal®; Allergic symptoms vein glue*

INTRODUCTION

No allergic reaction in 94 months using vein glue

Our nearly 8 years experiences in using varicose vein glue did not show any allergies in all 2710 sealed truncal varicose veins. By default, we perform regular clinical and ultrasound follow–ups of treated veins. Until now we have not been reported allergic, nor have we found any clinical signs of allergies or allergic symptoms [1,2].

This affected all treated patients, including those who reported in the preoperative preparation and the discussions about allergies or as a multi-allergy sufferer had a corresponding allergy pass [3,4].

As previously started, all our self–payer patients receive a warranty card on the effectiveness of the sealing vein procedure. This is a 3–year warranty on the therapeutic effect and possibly free repetition of the glue associated. In this context of warranty, we have treated a second intervention with sealing glue in 24 patients [5].

This fact speaks against the conjecture of colleague Dr. Thun, that allergies may occur during recurrent interventions (vasomed 1/2019, pages 28–31). In the same sheet reported Dr. Neff of 56 glue–treated truncal varicose veins, also all without an allergy [6].

VEIN GLUE ALLERGY

Facts from scientific literature

We find in the last 35 years only 25 (!) papers on this subject. Not all articles describe allergic reactions. The majority of the articles were published by dermatologists and aesthetic medicine. All publications are case descriptions. Compared to the number of patients using a cyanoacrylate glue, these numbers are negligible [7-10].

This fact is very interesting because of-actually-over 140 000 patients treated with vein glue.

Essentially it is about the suspicion of allergic skin reactions/inflammation/foreign body–reactions in the closure of surgical wounds of skin medicine (tumors, fat tumors etc). However, the described cases are–in relation to the number of treated patients–purely case –by–case descriptions [11,12].

Sage Journal only contains individual case descriptions of foreign body reactions after VenaSeal® therapy. Systemic allergic reactions are not found here.

In PubMed was found an article with a suspected systemic allergy to VenaSeal® vein glue: https://www.ncbi.nlm.nih.gov/pubmed/31440717.

Furthermore, allergic contact dermatitis after therapy with the cyanoaccrylate vein glue was described in two cases.

Other reports come from the field of aesthetic medicine. For example, contact allergies have been described in the bonding of artificial fingernails and eyebrows. In some cases, allergic rhinitis and asthma attacks have been described. The latter were mainly noticed by the inhalation of adhesive vapors and skin contact [13,14].

Even when working with cyanoacrylate glue in model making, it has come in one case described an asthma attack.

VEIN GLUE ALLERGY: CASE REPORT

In February 2020 we diagnosed an 84-year-old patient with a 4 °CVI with a leg ulcer on the left lower leg. There were 2 defective varicose veins on both legs. Both the GSV and the SSV were considerably refluxive and expanded. There was marked tissue edema on both lower legs, the skin showed traces of chronic inflammation and recurrent soft tissue inflammation [15].

We recommended minimally invasive, nonthermal, nontumescent catheter therapy using the vein glue VenaSeal®-with the possibility of simultaneous therapy of all 4 insufficient truncal varicose veins [16].

Within a week the patient decided on therapy and on February 12th. We also carried out this simultaneously on the 4 truncal varicose veins.

The follow-up examinations by means of clinical examination and duplex ultrasound showed a clear decrease in soft tissue swelling and venous pressure in the lateral veins. The existing ulcer on the left lower leg was already smaller and showed a clean wound area with a clear tendency to heal. The ultrasound examination confirmed that all 4 varicose veins were almost completely closed [17,18].

Micro foam therapy for side branches varicose veins was then started 14 days later. We first treated the left leg to further accelerate the healing of the ulcer.

Another 14 days later the patient turned acute with a massive inflammatory reaction on the right lower leg in front. Inflammatory capillary bleeding and pustules were visible on both legs and the upper body (Figure 1).

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Figure 1) Inflammatory capillary bleeding and pustules were visible on both legs and the upper body.

The patient was admitted to a university clinic on suspicion of a cyanoacrylate allergy after VenaSeal®-therapy. The inpatient stay lasted 6 days. Leukocytoclastic vasculitis (leukocyte-reactive capillary inflammation) was diagnosed (Figure 2). Tissue removal then showed suspicion of leukocytoclastic vasculitis of parainfectious genesis due to erysipelas on the right lower leg [19].

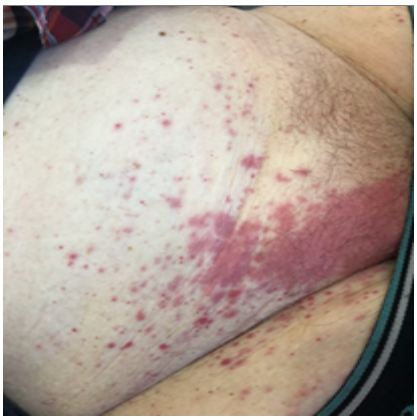

Figure 2) Leukocytoclastic vasculitis (leukocyte-reactive capillary inflammation) was diagnosed.

The therapy consisted of cooling, anti-inflammatory bandages on the vasculitis areas, and lavanide gel as well as fatty gauze for the ulcer. Antibiotic therapy was also carried out.

The duplex sonographic diagnosis of the leg veins showed no further evidence of persistent chronic venous insufficiency [20].

The treated varicose veins were effectively closed (Figure 3).

Figure 3) Post inflammation.

In the mean time we have micro foam therapy on the right leg continued, the ulcer on the left lower leg has become significantly smaller. A new ulcer has now formed on the right lower leg in the area of erysipelas (Figure 4).

Figure 4) Micro foam therapie will be continued.

Evidence of an allergy to the vein glue VenaSeal® could not be provided.

DISCUSSION

Allergy potential of the vein glue overestimated

We believe that statements about the allergenic risk of vein glue are sometimes overstated. On the one hand, only very small amounts of the glue–approx. 1.2-1.8 ml per truncal varicose vein (in maximum 8ml in our Saphenion®Vein Care Centers)–are introduced into the vein via catheter. On the other hand, there are only very few individual case descriptions for the general topic „cyanoacrylate glue and allergy".

In addition, hypersensitivity reactions (foreign body reaction) are possible. These appear as a red stripe across a vein segment treated with VenaSeal®. In our 2710 treated truncal varicose veins, these reactions occurred in 203 veins, which corresponds to a share of 7.5%.

The therapy for this side effect appears very simple. A cooling alcohol bandage twice a day over 3-7 days is completely sufficient. In no case was a medication or compression necessary for us. However, we start cooling immediately after treatment. On the operating table, we put on all our patients an alcohol bandage for about 30 minutes [21-22].

Since this very simple therapy we have decreased the hypersensitive foreign body reaction from 19% in the first 2 years using vein glue to 7,3% until today!

And we believe that this phenomenon occurs primarily in patients whose truncal veins are extra-anatomically outside the fascia, directly in the hypodermis. In this case, we point out this possible side effect particularly intensively [23].

Of course, as with any drug, an explanation of the problem of a possible allergy must be made. However, the risk of actually developing allergic reactions is negligible in sealing veins [24-27].

CONCLUSION

This must be communicated in any case. A blanket suspicion of allergic side effects is completely out of place.

DISCLOSURE

The Author do not have any potential conflict of interests.

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