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COMPRESSION after FOAM SCLEROTHERAPY

COMPRESSION après SCLÉROTHÉRAPIE à la MOUSSE

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S U M M A R Y

The use of permanent elastic compression after sclerotherapy is part of all sclerotherapy guidelines. The benefit of compression after sclerotherapy is not well proven in literature.
In large varicose veins compression for a short time seems as efficient as compression for several weeks. In small varices compression seems to lead to less hyperpigmentation and better results.
Compression stockings seem to be as effective as compression bandages. Local compression seems to be helpful.
No prospective randomised studies comparing compression with no compression in foam sclerotherapy are available. In the great saphenous vein effective treatment could be demonstrated also without compression with liquid and foam [6, 8]. Nevertheless compression is used also in this indication in most of the centers.

Keywords : *compression, foam sclerotherapy.*

R É S U M É

Le recours à la compression élastique permanente après sclérothérapie constitue un des éléments de bonne conduite concernant la sclérothérapie en général. Mais le bénéfice de cette compression après sclérothérapie n'est pas prouvé dans la littérature.
Dans le cas de grande varicose, une compression durant une courte période paraît aussi efficace qu'une compression maintenue durant plusieurs semaines.
Dans les petites varicoses, la compression semble générer moins de pigmentations et donner de meilleurs résultats.
La compression par bas paraît aussi efficace que par bandes. Une compression localisée peut être utile.
Aucune étude prospective randomisée comparant compression et absence de compression après sclérothérapie à la mousse n'est retrouvée dans la littérature.
Dans le territoire grande saphène, un traitement a pu être démontré efficace même sans compression, que le sclérosant soit sous forme liquide ou mousse. Néanmoins, la compression est utilisée, même dans cette localisation, dans la plupart des centres de phlébologie.

Mots-clefs : compression, sclérothérapie à la mousse.

INTRODUCTION

In foam sclerotherapy of branches compression seems to be favourable to reduce inflammation and pigmentation.

Compression bandages or compression hoisery are part of the sclerotherapy regimen in nearly all countries [1, 9].

Villavicencio stated in 1996 that although there are physicans who do not use compression after a session of sclerotherapy, there are reasons to suggest that compression is useful even in vessels of a small diameter. In his opinion compression therapy leads

– to more effective fibrosis,

– to a decrease of the extent of thrombus formation,

– to less extension of the thrombus into the deep venous system and,

– to a decrease of the the amount of discompfort [9].

In the guidelines of the American Venous Forum [9] a compression therapy after injection is recommended for a minimum of 1 week with compression bandages or compression stockings.

In the international consensus document on sclerotherapy from 1997 [1] in small veins a disagreement regarding post sclerosis compression for all kinds of varicose veins was stated. In large veins the statement said that compression is mandatory if sclerotherapy starts from the bottom otherwise optional.

COMPRESSION AFTER SCLEROTHERAPY

Looking to the principles of compression in sclerotherapy there are different kinds of compression that have to be considered :

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– local permanent compression with cotton pads or cotton rolls after injection,

– digital short-time compression of the injection side,

– compression or intermittent compression with duplex-probe,

– permanent elastic compression by bandages or stockings.

LIQUID SCLEROTHERAPY

Prospective controlled studies showing the benefit of compression in sclerotherapy are rare. Consequently the use of compression in sclerotherapy is also controversial.

Neumann published a prospective study with 100 patients and 120 legs in 1999. Patients had macrosclerotherapy of large veins and were treated afterwards with cotton rolls and elastic stockings [7]. Good clinical results were found in all patients. Only in 3 cases intravascular blood clots or phlebitis needed incision and expression of the thrombus.

Schadeck [8] advised intermittent compression by duplex probe after injecting the saphenous vein until a reduction of the vein diameter appears. By this method he could demonstrate better results in his clinical studies. No elastic permanent compression was used in his patients. In this case intermittent compression with the duplex-probe was used to increase the rate of venospasm after injection. Venospasm even after foam sclerotherapy is considered one of the main factors which positively influence the affectivity of sclerotherapy [6].

The question how long compression bandages or compression stockings should be performed after sclerotherapy is still open. Batch et al. [2] published a prospective randomised trial in 1980. One hundred and forty-eight patients (169 legs) with large varicose veins were injected using the Fegan technique. Two randomised groups had compression bandages for three or six weeks. Follow up after 3 weeks, 3 months, 1 and 2 years showed no significant differences in the results or complications in these two groups.

The use of compression therapy after sclerotherapy of intradermal varicose veins (telangiectases) is even more controversial. Some authors do not recommend compression in these cases because they did not see improvement of the results [5].

Goldman published a paper of postsclerotherapy compression with compression stockings in 37 women with bilaterally symmetrical telangiectases in 1990 [4]. In this pilot-study he could show greater clinical resolution in the distal leg, lesser hyperpigmentation and less edema.

In a controlled comparative prospective study with one single treatment Weiss et al. investigated 40 patients with reticular and telangiectases veins. The patients were randomised in 4 groups. Ten had no compression, 10 had 3 days of compression, 10 had 1 week of compression and 10 had 3 weeks of compression after sclerotherapy. The patients were evaluated at 1, 2, 6, 12 and 24 weeks for the degree of improvement and side effects. There were no significant differences for bruising, matting, edema and ulceration but a significant reduction of hyperpigmentation increasing with the compression duration [10].

FOAM SCLEROTHERAPY

Caused by the different dynamics of foam sclerotherapy compression after foam sclerotherapy has to follow some special rules [3].

In liquid sclerotherapy immediate external compression or occurring venous spasm leads to a better contact of the sclerosing agent and the venous wall. In foam sclerotherapy a higher percentage of spontaneous venospasm after injection could be demonstrated compared with liquid [6]. In the horizontal position of the leg foam stays relatively stable in the injected area of the vein. Muscle contraction or immediate external compression may dislocate the foam column. In the European Consensus Document for foam sclerotherapy it is therefore suggested to wait a short time (some minutes) after injecting foam to avoid dislocation of the foam column before the patient is allowed to stand up or before compression is applied [3].

After a few minutes polidocanol is bound to the protein fraction and inactivated. In addition venous spasm resolves after some time spontaneously. External compression in this phase should reduce thrombus formation, inflammation, induration and pigmentation after foam sclerotherapy which are seen more often after foam than after liquid sclerotherapy especially of branches. Good results of foam sclerotherapy of the saphenous veins could also be demonstrated without compression therapy [6].

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CONCLUSION

Liquid sclerotherapy

The use of permanent elastic compression after sclerotherapy is part of all sclerotherapy guidelines.

The benefit of compression after sclerotherapy is not well proven in literature.

In large varicose veins compression for a short time seems as efficient as compression for several weeks.

In small varices compression seems to lead to less hyperpigmentation and better results.

Compression stockings seem to be as effective as compression bandages.

Local compression seems to be helpful.

Foam sclerotherapy

No prospective randomised studies comparing compression with no compression in foam sclerotherapy are available.

In the great saphenous vein effective treatment could be demonstrated also without compression with liquid and foam [6, 8].

Nevertheless compression is used also in this indication in most of the centers.

In foam sclerotherapy of branches compression seems to be favourable to reduce inflammation and pigmentation.

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