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COMPARISON OF NOVEL APPROACHES FOR THE TREATMENT OF SPIDER VEINS: SCLEROTHERAPY VS RADIOFREQUENCY THERMOCOAGULATION

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Spider veins on the lower limbs are very common and have been reported to be present in 41% of women over 50. Sclerotherapy is a traditional, so-called gold standard of treatment for spider veins [1]. Sclerotherapy combines such positive features as minimal invasiveness, high cosmeticity, lack of operational risk, a short period of patient rehabilitation, and low cost. However, this method has a number of disadvantages, including a high degree of recurrence, a number of local complications (pain at the injection site, local edema, erythema, hemorrhage, hyperpigmentation, local skin necrosis), and sometimes resistance to sclerosing of very small vessels, where it is impossible to inject a solution with a needle [1, 2].

Now the attention of surgeons is once again attracted by hardware, coagulation techniques. These techniques were already used in the 1990s, but were forgotten due to a number of shortcomings of the technology of that time. Modern technologies, such as radiofrequency coagulation, are safer, more controlled and devoid of those disadvantages, which allows it to be used for the treatment of spider veins. This technique consists in the coagulation of blood vessels by introducing into their lumen micro needle - tungsten electrodes with a diameter of 0.2-0.3 mm. The coagulation of the vein takes place with a current of 4 MHz [1, 3, 4].

The aim Compare sclerotherapy and radiofrequency thermocoagulation in the treatment of reticular varicose veins, search for the most optimal methods to achieve a stable result.

Material and methods. 53 patients with spider veins aged from 20 to 46 years were involved in the study. All the examined were divided into 2 groups depending on which treatment method was used. The first group included 29 patients who were treated with sclerotherapy with 0.5% liquid polidocanol. In the post-procedural period, this group of patients underwent compression therapy by using medical compression stockings (II compression class) for 3 weeks. The second group includes 24 patients who underwent radiofrequency thermocoagulation of spider veins with the apparatus of Dr. Oppel ST-501 (Sometech, South Korea). Compression therapy was not performed. The results of the treatment were evaluated in the monthly and 6-month terms. The main point of evaluation of the research result was the recurrence of spider

veins, also paid attention to complications that occurred during or after the procedures, and the intensity of the pain syndrome on the 0–5 Numeric Rating Scale, which is often used in pain management [5].

Results and discussion. In the group of patients who were treated with sclerotherapy within a month, 3 (10.4%) relapses of the disease were registered, and another 4 (13.8%) within 6 months. In the group of patients who underwent radiofrequency thermocoagulation within a month, no relapses were detected, 2 (8.3%) relapses were detected after 6 months (the difference is not statistically significant, p=0.168). Satisfaction with the result of the treatment was expressed by 22 patients (75.8%) of the first and 22 patients (91.6%) of the second group (p<0.01), the difference is statistically significant. Among the group of patients who underwent sclerotherapy, 8 (27.5%) local complications were noted, in patients who underwent radiofrequency thermocoagulation - 3 (13.6%) (the difference is not statistically significant, p=0,236). The intensity of the pain syndrome in the group of patients who underwent sclerotherapy was 0.42 ± 0.09, in the group who underwent radiofrequency thermocoagulation 0.23 ± 0.08, (the difference is not statistically significant, p=0,168). At the same time, it is worth noting that in two patients after sclerotherapy, small capillary vessels remained visible, which could not be sclerosed due to their small diameter, which significantly worsened the cosmetic result.

Conclusion. Radiofrequency thermocoagulation of spider veins provides a more stable and cosmetic result with fewer complications. The advantages of this method are also its low cost, it is not accompanied by pronounced pain, which would require additional analgesia, and there is no need for compression therapy in the postoperative period.

References

1. Mujadzic M, Ritter EF, Given KS. A Novel Approach for the Treatment of Spider Veins. Aesthet Surg J. 2015 Sep;35(7):NP221-9. doi: 10.1093/asj/sjv004. Epub 2015 Aug 4. PMID: 26246022; PMCID: PMC4551823.

2. Nakano LC, Cacione DG, Baptista-Silva JC, Flumignan RL. Treatment for telangiectasias and reticular veins. Cochrane Database Syst Rev. 2021 Oct 12;10(10):CD012723. doi: 10.1002/14651858.CD012723.pub2. PMID: 34637138; PMCID: PMC8507602.

3. Diken Aİ, Alemdaroğlu U, Özyalçın S, Hafez İ, Tünel HA, Yalçınkaya A, Ecevit AN. Adjuvant radiofrequency thermocoagulation improves the outcome of liquid sclerotherapy in the treatment of spider veins of the leg: A pilot study. Phlebology. 2021 Sep;36(8):620-626. doi: 10.1177/02683555211006534. Epub 2021 Apr 4. PMID: 33813962.

4. Parvulesco J. Micro-coagulo-chirurgie. Nouvelle thérapie esthétique des varicosités téléangiectasiques [Micro-coagulation-surgery. A new esthetic treatment of telangiectatic varices]. Phlebologie. 1991 Jan-Mar;44(1):213-20. French. PMID: 1946647.

5. Govas P, Ketchum A, Kazi R, Gordon BR, Carroll BT. Pain Intensity Assessment Scales for Dermatologic Surgery Patients: A Systematic Review. Dermatol Surg. 2022 Feb 1;48(2):232-238. doi: 10.1097/DSS.0000000000003353. PMID: 34923536