Physician - Venous and Lymphatic System Diseases and Surgery/Endovenous Interventions

[MSB-02]

Modern Approaches to Venous Ulcer Healing: A Study on Cyanoacrylate Embolization, Radiofrequency Ablation, and Laser Ablation

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Objective: The study aimed to investigate the effects of radiofrequency ablation (RFA), cyanoacrylate embolization (CE), and laser ablation (LA) in the treatment of perforating venous insufficiency.

Methods: One hundred eighteen patients with CEAP (Clinical, Etiological, Anatomical, and Pathophysiological) class 6 active ulcers were retrospectively reviewed between January 2018 and June 2023. The patients were divided into groups according to the treatment method: the CE group (n=55), the RFA group (n=63), and the LA group (n=30). Duplex scanning for venous ulcer and perforating insufficiency was performed in all patients, and healing rates at one-month, one-year, and two-year controls were calculated.

Results: At one month, occlusion rates were significantly lower for CE compared to 85%, RFA 90%, and LA 88% (p=0.05). The one- and two-year closure rates were 81% and 76% for CE, 84% and 78% for RFA, and 82% and 77% for LA, respectively. No significant difference was found between the one- and two-year closure rates. Deep vein thrombosis without pulmonary embolism was detected in five patients who underwent CE. The thrombus resolved in these patients after three months of anticoagulant therapy. All ulcers healed within three months.

Conclusion: Closure of perforator veins using minimally invasive techniques appears to predict wound healing with minimal morbidity. Radiofrequency ablation, CE, and LA are increasingly used for perforating vein failure in venous ulcer healing. In terms of deep vein thrombosis, RFA is safer than CE and LA.

Keywords: Cyanoacrylate embolization, laser ablation, perforating veins, radiofrequency ablation, venous ulcers.