

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

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Clinical Efficacy and Safety of Using N-Butyl Cyanoacrylate in the Treatment of Perforator Vein Insufficiency

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Objective: This study aimed to evaluate the efficacy of a nonthermal and nontumescent embolization method using N-butyl cyanoacrylate for managing perforator incompetence.

Methods: This single-center retrospective study analyzed 98 consecutive patients diagnosed with perforator vein insufficiency treated with N-butyl cyanoacrylate. The study protocol included physical examinations, Doppler ultrasonography, venous clinical severity scoring, CEAP (Clinical, Etiological, Anatomical, and Pathophysiological) classification, and quality of life assessments before and after the procedure. The primary goal was to compare clinical, functional, and duplex ultrasonography parameters in managing varicose vein diseases with isolated primary perforator incompetence using duplex ultrasonography-guided N-butyl cyanoacrylate treatment. Furthermore, the study evaluated the occlusion rate, procedural pain, phlebitis, ecchymosis, and paresthesia.

Results: The occlusion rate at six months was 96.9%, with a significant reduction in pain and other symptoms of chronic venous insufficiency. The incidence of complications was low. Phlebitis was observed in 3.4% of cases, ecchymosis in 2.8%, and transient paresthesia in 1.7%. There were no reports of severe adverse events, such as deep vein thrombosis or allergic reactions.

Conclusion: Interruption of perforators effectively reduces the symptoms of chronic venous insufficiency and promotes rapid ulcer healing. This nontumescent, nonthermal embolization method can be safely applied with high success rates. The results of this study suggest that N-butyl cyanoacrylate is a viable option for treating perforator incompetence.

Keywords: N-butyl cyanoacrylate, perforator vein incompetence, venous ulcer.



Figure 1. Image demonstrating perforator vein insufficiency.

References

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