

Hemodynamic Pathophysiology of Chronic Venous Insufficiency: Diagnostic Modalities and Treatment Strategies

Introduction

Chronic venous insufficiency (CVI) is a common, progressive disorder... [truncated for brevity]

Treatment Strategies

The goals of CVI therapy are to alleviate symptoms... [section includes the revised part below]

CHIVA (Conservative Hemodynamic Correction):

CHIVA is a surgical philosophy... The hemodynamic objective is to eliminate reflux shunts while maintaining native saphenous flow to decompress the superficial system. CHIVA preserves the saphenous vein for potential future use and theoretically maintains physiological drainage. A Cochrane review found that CHIVA provides similar rates of varicose vein recurrence as stripping but may cause fewer complications such as nerve injury or bruising.

Importantly, CHIVA preserves the great saphenous vein as a potential autologous conduit for future arterial bypass grafts. This is especially relevant in patients with cardiovascular risk factors or peripheral arterial disease. In contrast, thermal ablation, sclerotherapy, and stripping render the saphenous vein unusable for future bypass procedures - an underemphasized but clinically significant concern. These considerations support CHIVA as a long-term vascular preservation strategy, particularly in younger or high-risk patients.

Discussion

In conclusion, a thorough understanding of venous hemodynamics is essential... Whether by preserving venous structures (CHIVA)... therapies should be chosen to restore as normal a flow pattern as possible. Notably, the decision to destroy or preserve the great saphenous vein should consider long-term patient

needs. In individuals at risk for coronary or peripheral arterial disease, preserving this vein - as CHIVA does - may be critical for future surgical grafting options.

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