



Unveiling Plantar Foot Pain as a Manifestation of Venous Insufficiency

Ji-Min Chang (MD, PhD)*, Hwan-Kyu Rho (MD, PhD)**

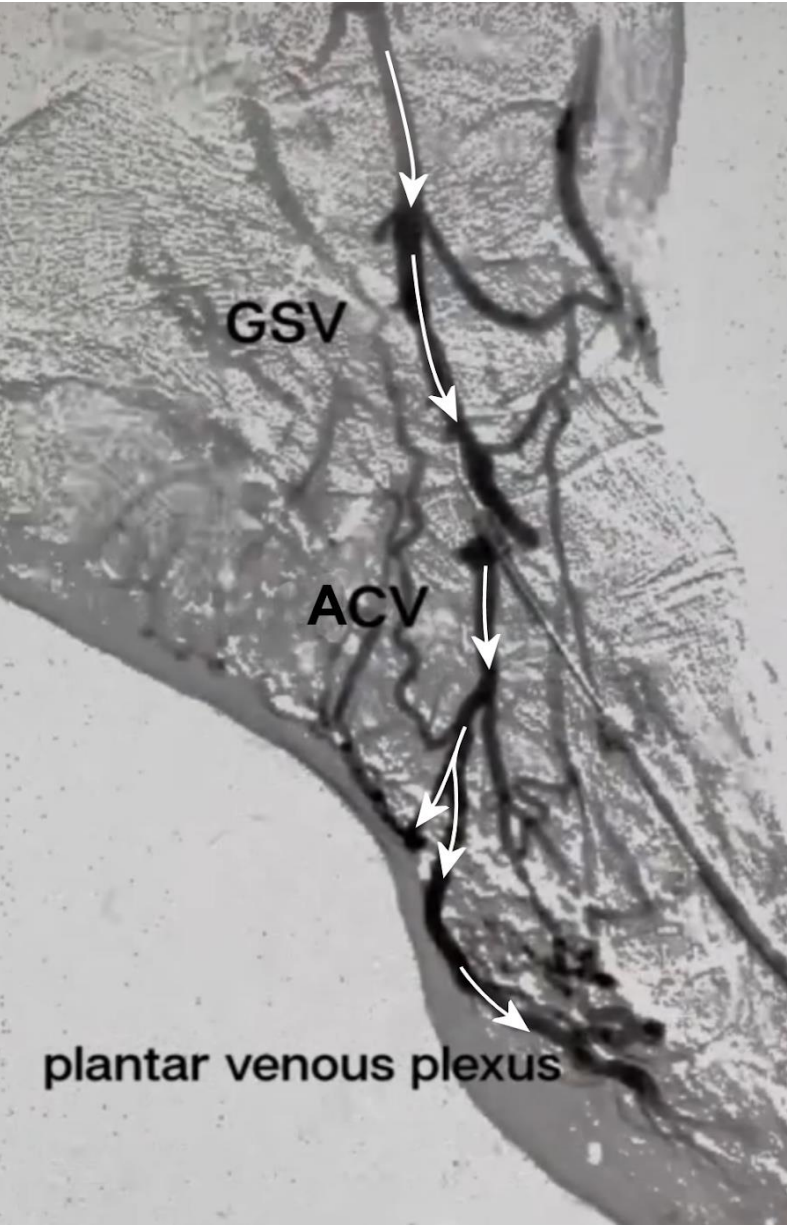
INTRODUCTION

Lower extremity venous insufficiency (LEVI) is a prevalent vascular disorder characterized by valvular incompetence and reflux. Pain is a frequent symptom, typically described in the calf or thigh. However, reflux may propagate distally, reaching the plantar foot due to gravity and retrograde venous flow(Figure 1). Plantar foot pain has not been previously recognized as a manifestation of LEVI, and the relationship remains underexplored.

AIM

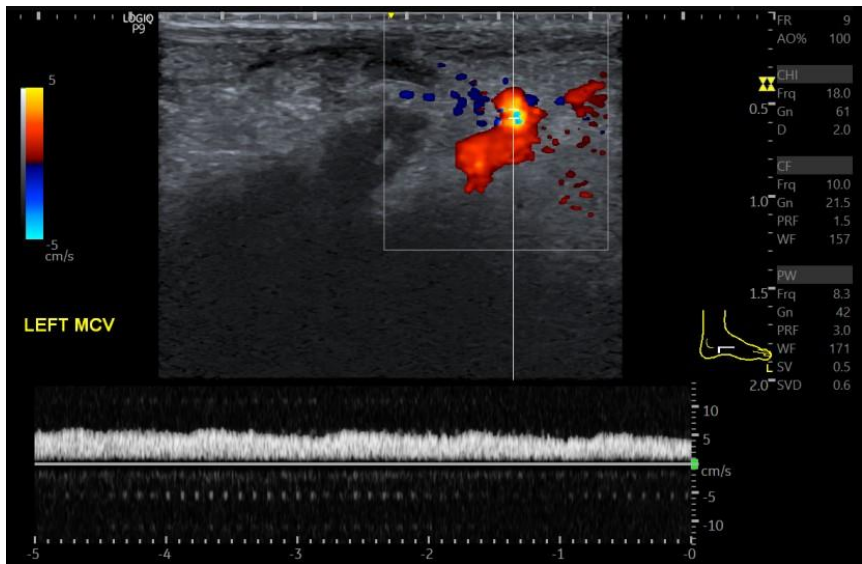
This study aimed to evaluate changes in plantar foot pain following endovenous treatment of saphenous and foot vein reflux.

Figure 1



A common route for GSV reflux to cause frontal plantar pain

Figure 2

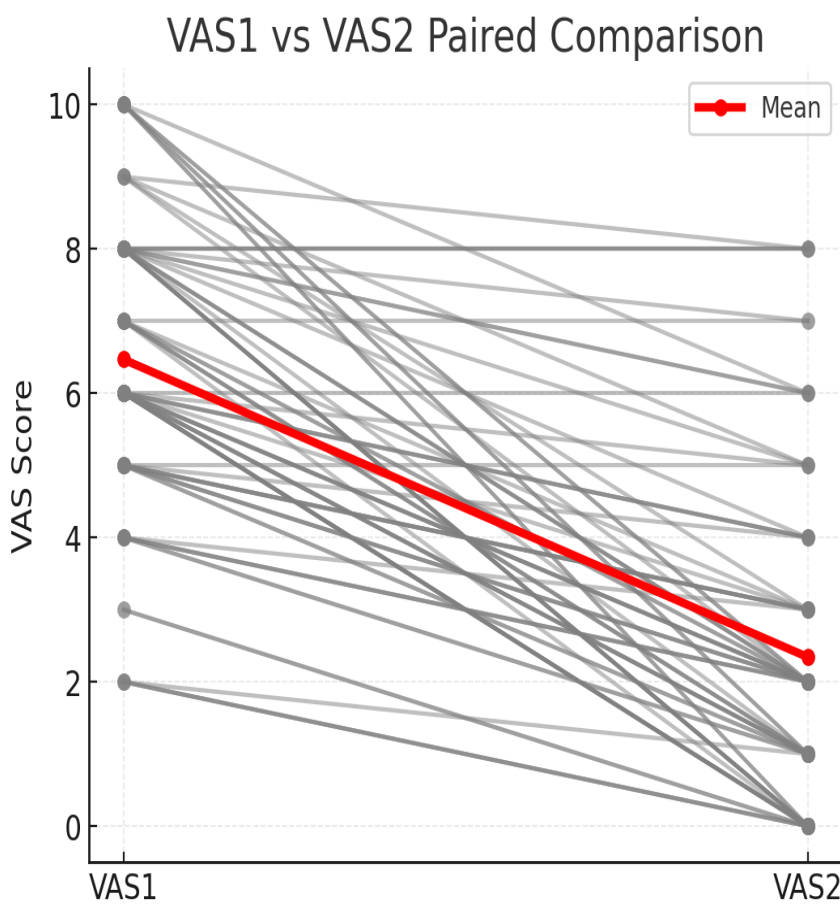


Pulse wave of MCV(Medial Collecting Vein) showing reflux

METHODS

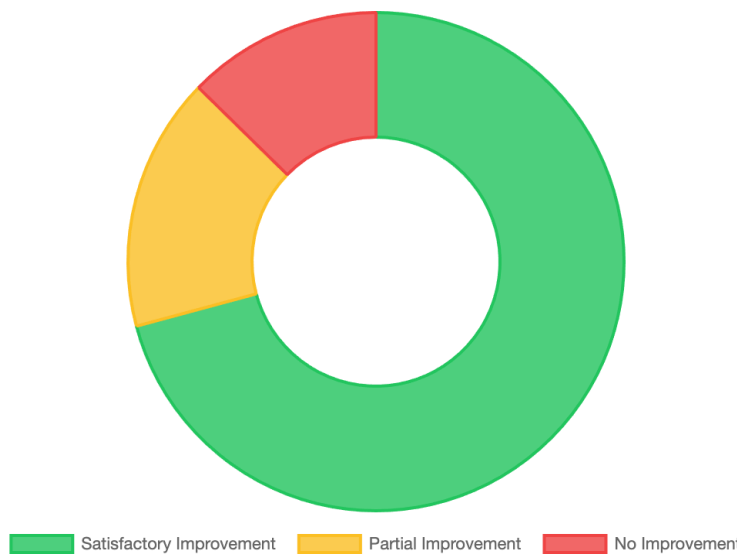
- **Study Period:** Jul 2024 – Jun 2025
- **Population:** 79 patients with plantar foot pain
- **Interventions:**
 - Catheter-based saphenous vein closure procedures+ Sclerotherapy for the venous reflux in the foot veins
- **Assessment:** pre- and post-treatment VAS score
- **Follow-up:** mean 3.9 months

Figure 3



Comparison of VAS plots before and after treatment

Figure 4



Patient Outcomes Distribution

RESULTS

Patient Data

- 79 patients in total (31 males, 48 females)
- mean age 59.04 years (range: 31 ~ 85)
- mean symptom duration period 3.81 years

Pre/post-treatment VAS score results

(Figure 3)

- Pre-treatment: mean 6.47 (range: 2 ~ 10)
- Post-treatment: mean 2.34 (range: 0 ~ 8)
- Pre/post-treatment score reduction was statistically significant ($p < 0.0001$)

Patient Satisfaction Response (Figure 4)

- Satisfactory symptom improvement – 56 patients (70.89%)
- Improved symptom but not satisfactory – 13 patients (16.46%)
- No symptomatic improvement – 10 patients (12.66%)

CONCLUSIONS

Plantar foot pain can be a clinically relevant manifestation of LEVI.

Endovenous treatment leads to significant pain relief in **87.3% of patients** with statistical significance ($p < 0.0001$). Active evaluation of venous reflux should be considered in patients presenting with plantar foot pain to avoid misdiagnosis and provide effective treatment.

AFFILIATION

*Sheikh Khalifa Specialty Hospital, Ras Al Khaimah, UAE,
**Heartwell Vein Clinic, Seoul, South Korea, Heartwell clinic Global