

A Clinical Study and Management of Venous Ulcers

Dr. Vijay Kumar Raju Kandru¹, Dr. K. Suhas²

¹Post Graduate, Department of General Surgery, Alluri Sitaramaraju Academy of Medical Sciences, Eluru - 534005 Andhra Pradesh
Email: vijay.psims[at]gmail.com

²HOD & Professor, Department of General Surgery, Alluri Sitaramaraju Academy of Medical Sciences, Eluru - 534005 Andhra Pradesh

Abstract: *Venous ulcers are the most common form of chronic leg ulceration, resulting from longstanding venous hypertension due to valvular incompetence or venous outflow obstruction. These ulcers are often painful, recurrent, and difficult to heal, placing a significant burden on patients and healthcare systems. This prospective observational study, conducted at St. Martha's Hospital, Bangalore, from July 2019 to August 2021, involved 35 patients with confirmed venous ulcers. The objective was to compare the outcomes of conservative and surgical management in terms of healing time, recurrence, return to work, and hospital visits. Results indicated that surgical management led to faster healing, fewer follow-up visits, and earlier return to routine activities, emphasizing the importance of a comprehensive diagnostic and individualized therapeutic approach in managing venous ulcers.*

Keywords: Venous ulcer, chronic venous insufficiency, compression therapy, surgical management, wound healing

1. Introduction

Chronic venous insufficiency (CVI) is a common vascular disorder and a leading cause of leg ulcers. Venous ulcers result from sustained venous hypertension caused by venous reflux, obstruction, or both, leading to tissue ischemia, inflammation, and ultimately ulceration. They are typically located in the gaiter region and can persist for months or years if untreated.

The pathophysiology involves several mechanisms including valvular incompetence, fibrin cuff formation, leukocyte trapping, and elevated matrix metalloproteinase (MMP) activity. Risk factors include advanced age, female gender, obesity, prolonged standing, and history of deep vein thrombosis (DVT).

Management of venous ulcers includes conservative modalities such as compression therapy and wound care, as well as surgical options targeting the underlying venous pathology. This study aims to evaluate the clinical profile, underlying causes, and outcomes of different treatment strategies for venous ulcers.

2. Materials and Methods

This prospective observational study was conducted at the Department of General Surgery, Asram medical college eluru from July 2022 to August 2024. Inclusion criteria included patients aged >18 years with Doppler - confirmed venous ulcers. Exclusion criteria included ischemic, diabetic, malignant, or traumatic ulcers, and those with a normal venous Doppler or confirmed DVT.

All patients underwent detailed clinical evaluation and Doppler ultrasonography. Conservative treatment included compression therapy, wound care, and antibiotics, while surgical treatment involved ligation of incompetent junctions and perforators, vein stripping, STSG, or VAC dressing. Healing progress was monitored using MOWA software. Statistical analysis was performed using SPSS v22 with significance set at $p < 0.05$.

3. Results

The study included 35 patients, with a mean age of 50.06 years. Males constituted 80% of cases. The majority were laborers. Ulceration (100%), pigmentation (71.4%), and pain (60%) were predominant symptoms. Most cases (65.7%) involved the right lower limb.

Diagnosis revealed combined SFJ and perforator incompetence (31.4%) as most common. Conservative management was used in 37.1% and surgical interventions in 62.9% of cases.

Surgical treatment significantly improved healing times, return to work, and reduced hospital visits:

- Ulcer healing: 4.23 weeks (surgical) vs 5.62 weeks (conservative), $p=0.002$
- Return to work: 4.91 weeks (surgical) vs 6.08 weeks (conservative), $p=0.006$
- Hospital visits: 6.41 (surgical) vs 8.54 (conservative), $p=0.011$

4. Discussion

Venous ulcers are chronic wounds that affect quality of life and impose a heavy healthcare burden. This study confirms that patients with combined venous incompetence benefit significantly from surgical management in terms of faster healing and earlier return to routine life. Conservative therapy remains essential for non-surgical candidates, but is associated with longer recovery.

The findings align with global literature, including studies by Van Gent and Zamboni, highlighting that appropriate surgical interventions enhance healing and reduce recurrence. Limitations include small sample size and short follow-up duration.

5. Conclusion

Venous ulcers are a prevalent chronic wound disorder requiring timely diagnosis and targeted treatment. Surgical

intervention, when appropriately indicated, significantly enhances healing outcomes and quality of life. Comprehensive care with duplex imaging, compression, surgery, and patient education is essential for optimal results.

References

- [1] Gillespie DL. Current principles in venous ulcer management. Pacific Vascular Symposium.2009.
- [2] Eklöf B, et al. Revision of CEAP classification. J Vasc Surg.2004; 40 (6): 1248–52.
- [3] Cornwall JV, et al. Leg ulcers: Epidemiology and treatment. Br J Surg.1986; 73: 693–6.
- [4] Meara SO, et al. Compression for venous leg ulcers. BMJ.2012; 345: e5180.
- [5] Coleridge Smith PD. Role of MPFF in venous insufficiency. Int Angiol.2005; 24 (4): 309–15.
- [6] Heinen MM, et al. Venous leg ulcers: Care and outcomes. J Eval Clin Pract.2008; 14 (4): 630–6.
- [7] Van Gent WB, et al. Surgical vs conservative ulcer management. J Vasc Surg.2006; 44 (3): 563–70.
- [8] Zamboni P, et al. CHIVA vs compression in ulcer treatment. J Vasc Surg.2003; 38 (5): 878–83.