

AB043. SOH21AS188.

Outcomes of saphenous vein intervention in the management of superficial venous incompetence: a systematic review and network meta-analysis

Sara Anne Gasior¹, John Phineas O'Donnell², Tom Aherne^{3,4}, Amirhossein Jalali⁵, Éanna Ryan², Stewart Walsh^{3,4}

¹University of Limerick School of Medicine, Castletroy, Co. Limerick, Ireland; ²Royal College of Surgeons in Ireland, Department of Surgery, Royal College of Surgeons in Ireland, Dublin, Ireland; ³University Hospital Galway, Department of Vascular Surgery, Galway, Ireland; ⁴Lambe Institute for Translational Discipline of Surgery, National University of Ireland, Galway, Ireland; ⁵University College Cork, School of Mathematical Sciences, Cork, Ireland

Background: Endovenous therapies have instigated a paradigm shift in the management of saphenous incompetence. When compared with open surgery, endovenous interventions [foam sclerotherapy (FS), radiofrequency ablation (RFA), endovenous laser ablation (EVLA), mechanochemical ablation (MOCA), and cyanoacrylate glue (CAE) closure] potentially offer reduced morbidity with similar procedural efficacy.

Methods: A systematic review and series of network meta-analyses of randomized controlled trials (RCTs) were performed to assess risks of procedural failure (within 6-week) and recurrence (6-week to 5-year), defined by ultrasound, between saphenous vein treatments. Multiple treatment comparisons addressing risks of common adverse events, Venous Clinical Severity Score (VCSS) and pain were also performed.

Results: A systematic search identified 51 RCTs, incorporating 7,735 limbs, meeting predefined inclusion criteria. Outcome data on ten modalities of intervention were analysed up to five-year follow-up. CAE glue resulted in the lowest risk of procedural failure within six-weeks (SUCRA =0.98). FS had the highest risk of recurrence while

high ligation with stripping (HLS) and CHIVA were ranked best to reduce long-term recurrence. No intervention increased risks of deep vein thrombosis (DVT) and pulmonary embolism (PE) and there was minimal difference in morbidity between treatments. All interventions improved VCSS (range, -1.02 to -4.95), however RFA demonstrated the greatest improvement, followed by EVLA and HLS between two to five-years. EVLA was associated with the highest risk of pain, while MOCA offered the least. **Conclusions:** While CAE offered the lowest risk of initial procedural failure, HLS resulted in lower rates of long-term recurrence without considerably increasing morbidity when compared with other endovenous options.

Keywords: Chronic venous disease; endovenous therapy; high ligation and stripping; network meta-analysis; saphenous vein insufficiency; systematic review; vascular surgery

Acknowledgments

Funding: None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Open Access Statement: This is an Open Access article distributed in accordance with the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International License (CC BY-NC-ND 4.0), which permits the non-commercial replication and distribution of the article with the strict proviso that no changes or edits are made and the original work is properly cited (including links to both the formal publication through the relevant DOI and the license). See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>.

doi: 10.21037/map-21-ab043

Cite this abstract as: Gasior SA, O'Donnell JP, Aherne T, Jalali A, Ryan É, Walsh S. Outcomes of saphenous vein intervention in the management of superficial venous incompetence: a systematic review and network meta-analysis. *Mesentery Peritoneum* 2021;5:AB043.