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Adipose-derived stem cells in patients with venous ulcers: systematic review

Mohamed Elsharkawi, Baker Ghoneim,
Daniel Westby, Deirdre Jones, Wael Tawfick,
Stewart Walsh

Department of Vascular Surgery, University College Hospital Galway,
Galway, Ireland

Background: Few studies have reported on the safety and durability of adipose-derived stem cells (ADSCs) to support healing in patients with venous leg ulcers (VLU). To establish if there is any evidence to support ADSC use in VLU patients, a systematic review was conducted.

Methods: A systematic review was conducted following the PRISMA guidelines. PubMed and Embase databases were searched for relevant papers. References from retrieved papers were reviewed to identify any extra eligible studies.

Results: After duplicate removal, 950 papers were screened for eligibility of which 932 were excluded based on title and abstract. Four papers were included in the final analysis (one randomised study, and three non-randomised studies). Sixty-six patients in total received ADSCs for VLU treatment. The only randomised paper reported 6-month healing rates of 75% with ADSCs compared to 50% in controls. One hundred percent healing was achieved in one study. The remaining 2 studies reported 25% and 58% healing, however they included patients with relatively large VLUs. Pain scores decreased after ADSCs application where reported. No serious procedure related complications

were reported.

Conclusions: ADSCs may enhance ulcer healing in patients with chronic VLU and appears safe based on initial reports. Large, randomised trials are needed to definitively establish the technique's role in VLU patients.

Keywords: Stem cells; adipose tissue; mesenchymal; fat graft; venous ulcers

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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.

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