



Lymphedema Therapy Improves Outcomes in Patients with Concurrent Diabetic Foot Ulcer and Lymphedema

Kimberly Eby, FNP-BC, CWS; Brian Schmidt, DPM; Kourtney Noll, BHA; Crystal Holmes, DPM, CWSP
University of Michigan Health, Michigan Medicine Department of Internal Medicine Metabolism, Endocrinology, Diabetes & Podiatry



Introduction

Diabetic Foot Ulcers (DFUs) are the most common complication of diabetes and have significant impact on morbidity and mortality.^{1,3} Studies indicate that concurrent lymphedema impairs healing in DFUs.^{2,3} IWGDF guidelines advise assessment and treatment of edema when present, but no recommendations are provided on interventions.⁵

Objective

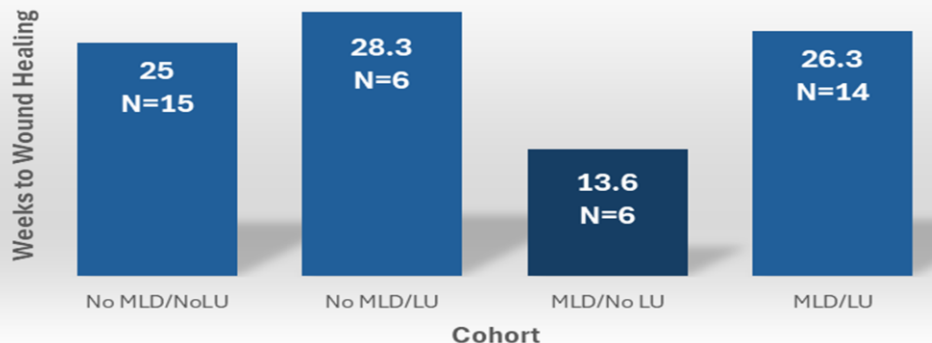
We will compare healing outcomes between patients with DFU and lymphedema who have a concurrent leg ulcer (DFU/LE/LU) and those without a leg ulcer (DFU/LE). Within each group, outcomes will be compared between patients treated with manual lymphatic drainage (MLD) and those who did not receive MLD.

Methods

A retrospective cohort study was conducted over a 10-year period at a multidisciplinary wound center. Patients with DFU/LE/LU and DFU/LE were divided into cohorts: those who received MLD and those who did not. Primary outcomes measured were time to complete DFU closure and healing of DFU at 12 and 20 weeks. IRB no: HUM#00253778

Cohorts		
Group 1	No MLD w/o Concurrent Leg Wound	N = 15
Group 2	No MLD + Concurrent Leg Wound	N = 6
Group 3	MLD w/o Concurrent Leg wound	N = 6
Group 4	MLD + Concurrent Leg Wound	N = 14

Average Weeks to Wound Healing



Results

Twenty patients with DFU/LE or DFU/LE/LU received MLD. The mean time-to-wound closure was 22.5 weeks (range: 3.9-74), with 45% closure at 12 weeks and 65% closure at 20 weeks. Twenty-one patients did not receive MLD. Mean time-to-wound closure was 25.9 weeks (range: 3.6-77), with 38% closure at 12 weeks and 57% at 20 weeks. In DFU/LE, mean time-to-wound closure was 13.6 weeks with MLD compared to 25 weeks with no MLD.

Cohort	Average Initial Surface Area: cm ²	Closure by Week 12: %	Closure by Week 20: %	Average Weeks to Wound Healing
No MLD/No LU	4.55	40.0	60.0	25.0
No MLD/LU	3.84	33.0	50.0	28.3
MLD/No LU	6.13	66.7	83.3	13.6
MLD/LU	2.86	35.7	57.1	26.3

Discussion

No significant differences were seen in age, sex, BMI, and Charlson Comorbidity Index between the groups. Although differences between the groups were not statistically significant, individuals with concurrent DFU and lymphedema who received MLD had higher healing rates, the biggest difference was seen in the individuals with DFU/LE that received MLD. Patients with DFU/LE/LU received lymphedema therapy at a higher rate than individuals with DFU/LE (p = 0.007). Larger studies are needed to guide recommendations on interventions regarding edema management in DFU.

Conclusion

Lymphedema management is essential to wound healing. Integrating MLD into the wound care plan, even when no leg ulcer is present, can increase healing rates and decrease time to DFU closure.

References

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