

Presentation and Management of Post-Traumatic Lymphedema: A Systematic Review of the Current Literature

Presenter: Christopher David Liao, MD

Co-Authors: Annet Kuruvilla, BS, Division of Plastic Surgery, Stony Brook University, Stony Brook, NY; Aleksandra Krajewski, MD, Division of Plastic Surgery, Stony Brook University Hospital, Stony Brook, NY

Affiliation: Division of Plastic and Reconstructive Surgery, Stony Brook University Medical Center, Stony Brook, NY

BACKGROUND

The accurate diagnosis and management of post-traumatic lymphedema are complex, challenging, and inconclusive due to its multifactorial nature. Given the sparse number of data-driven publications about post-traumatic lymphedema, we examined the literature for all reports on this topic and established a benchmark for current knowledge, treatment modalities, and patient outcomes.

METHODS

A systematic review of post-traumatic lymphedema in the extremities was performed. Titles and abstracts were reviewed for relevance to lymphedema of the extremities in the setting of trauma and burn injury.

RESULTS

After screening 733 titles and abstracts, 16 relevant articles were ultimately selected for analysis, producing 19 data entries. Study designs largely consisted of case reports and case series. Out of 88 total patients, the timeline of lymphedema presentation ranged from 1 day to 3 years after trauma. The most frequently reported injuries included burns (n = 12), motor vehicle accidents (n = 7), degloving injuries (n = 6), and open tibial fractures (n = 4). A majority of patients were managed with compression therapy. Among patients pursuing surgical intervention, 13 underwent lymphatic vessel transfer without lymph nodes, 4 were treated with flaps containing lymph nodes, and 2 underwent lymphovenous anastomoses. All patients had successful outcomes.

CONCLUSION

Both non-operative and surgical treatment of post-traumatic lymphedema deliver promising results within a reasonable time frame. However, a lack of high-quality evidence in the literature justifies the need for more well-designed studies specifically focusing on traumatic etiologies of lymphedema with more consistent documentation of patient factors, treatment modalities, and clinical outcomes.

Figure 3. The types of studies included in this review (N = 16 publications).

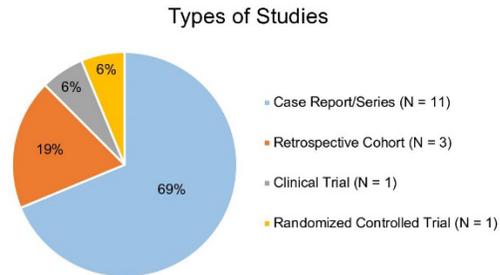


Figure 4. The various mechanisms of trauma reported. Among the 16 selected articles, only 37 patients had distinctly reported mechanisms of trauma (MVA/MVC = motor vehicle accident/collision; SCI = spinal cord injury; Nec Fasc = necrotizing fasciitis; Fx = fracture).

