

Systematic review of quality of life and patient reported outcomes in patients with oncologic related lower extremity lymphedema

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▲ Background

Lower Limb Lymphedema (LLL) is a common complication of cancer treatment and is characterized by abnormal tissue swelling, fibrosis, and adipose deposition. The disease is debilitating and usually progressive and treatment remains palliative with no known cure. Despite

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significant morbidity, there have been limited studies that have analyzed the impact of this condition on health-related quality of life (HRQOL). We performed a systematic review to summarize the known literature on HRQOL effects of LLL secondary to can-

Author	Study design & Evidence levels	HRQOL Instrument	Efficace Criteria compliant	Findings
Katz et al.	Cohort Level II	SF-36	Yes	Weight lifting did not improve QOL in patients with LLL.
Kim & Park	Cohort II	SF-36	Yes	QOL increased significantly in patients with LLL after CDP within 1 month.
De Vries et al.	Cohort II	EORTC-QLQ-C30	No	No significant difference in QOL in melanoma patients with or without lymphedema after SLNB, but generally a better QOL compared to a normal population.
Franks et al.	Prospective Observational III	SF-36 MOS-Short Form McGill pain questionnaire	Yes	QOL improved significantly after 24 weeks in patients having treatment with compression bandaging, but improvement was greater in patients with leg ulceration than cancer patients.
Carmelli & Bartoletti	Retrospective cohort IV	IDI-ILA part II	No	Patients with active lifestyles reported the highest QOL outcomes and those with a BMI >26.5 kg/m ² had a significantly lower QOL after CDP.
Brouns et al.	Retrospective IV	EORTC-QLQ-C30 + WHO-ICF	No	Patients having ilio-inguinal lymphadenectomy report a good QOL postoperatively. Lymphedema present or not has little or no impact on disability level or performing daily activities.

Tab. 1: Assessing the methodology of studies looking at QOL in LLL patients.

cer in order to identify valid treatment strategies for this disease.

Methods and Results

We utilized the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement as a guide for our systematic review. 25 studies were identified, 6 met inclusion criteria (Tab. 1). Levels of evidence included: no level I studies, level II (n=3), level III (n=1), and level 4 (n=2). 5 PRO HRQOL instruments were used, only 1 specific to cancer-related lymphedema. Treatment strategies assessed included complete decongestive physiotherapy (CDP), exercise, and compression bandaging. CDP yielded significant enhancements in HRQOL, patients specifying less pain and fatigue and had less lymphedema. Patients with BMI greater than 26.5 kg/m² reported significantly decreased quality of life. In contrast, compression bandaging significantly improved physical functioning, bodily pain, social functioning, emotional and mental health domains of HRQOL.

Conclusions

Our review suggests there is a deficit in high quality studies for HRQOL in patients with LLL secondary to cancer. This is surprising and worrisome since the lower limb is the most commonly affected area in patients

developing lymphedema worldwide. Furthermore, of the studies present, most did not use lymphedema condition specific PRO instruments or conform to guidelines set for the assessment of HRQOL. Despite these deficits, it appears that compression bandages and decongestive therapy improve HRQOL while increasing weight decreases it. We recommend that high level studies be performed to bridge the gap in our understanding of LLL. New measures specific to assessing this detrimental condition are essential if we are to gain precise evaluation of how this debilitating disorder affects HRQOL, and hence will enable the development of valid treatment strategies to treat it.

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