

Long term results of Simplified Lymphatic Microsurgical Preventing Healing Approach (SLYMPHA) for the Prevention of Breast Cancer-Related Clinical Lymphedema after Axillary Lymph Node Dissection

Tolga Ozmen, Christina Layton, Orli Friedman-Eldar, Siarhei Melnikau, Susan Kesmodel, Eli Avisar

Primary author: Tolga Ozmen, MD, FEBS

University of Miami, Miller School of Medicine, Department of Surgery

Background

Lymphedema (LE) is a serious complication of axillary lymph node dissection (ALND) with an incidence rate of 16%. SLYMPHA is a safe and relatively simple method, which decreases incidence of LE dramatically. Our initial study showed an 88% decrease in clinical LE rate after a median follow up of 15 months. The aim of this study was to confirm these results after a longer follow up period.

Methods

All patients, undergoing ALND between January 2014 and November 2020 were included in the study. During follow-up visits, tape-measuring limb circumference method was used to detect clinical LE. The incidence of clinical LE was compared between patients with and without SLYMPHA. Univariate and multivariate analysis were used to assess the role of other factors in the appearance of clinical LE.

Results

580 patients were included in the study. 35% of cohort underwent SLYMPHA. Mean follow-up time was 44 ± 31.9 months. Patients, who underwent SLYMPHA, had a significantly lower LE rate (10% vs 26%; $p=0.002$; OR 0.4 [0.31-0.77]). Diabetes and removing ≥ 22 lymph nodes also correlated with increased LE however this effect disappeared on multivariate analysis.

Conclusion

SLYMPHA is a safe and relatively simple method, which continued its efficacy after 4-years follow up. It should be considered as an adjunct procedure to ALND for all patients during initial surgery.

Table 1. Comparison of factors affecting Lymphedema

		Lymphedema No	Lymphedema Yes	p univariate	p multivariate
Age (years)		52.9 ±11	53.2 ±12	0.85	
Diabetes	No	290 (81)	70 (19)	0.035 OR 1.7 [1.04- 2.85]	0.055
	Yes	70 (71)	29 (29)		
≥ 22 Lymph nodes removed	No	333 (81)	80 (19)	0.038 OR 1.57 [1.02- 2.4]	0.074
	Yes	114 (73)	43 (27)		
Radiotherapy	No	93 (82)	20 (18)	0.23	
	Yes	354 (77)	105 (23)		
SLYMPHA	No	277 (74)	98 (26)	0.002 OR 0.4 [0.31- 0.77]	0.001
	Yes	174 (90)	30 (10)		

Categorical values reported as n(%)

Continues values reported as mean ±SD