Background

Lymphedema is a chronic progressive disease that impacts patient physical and psychosocial well-being It is estimated that more than 1 in 5 women who survive breast cancer will develop Breast Cancer Related Lymphedema (BORL)

The most used criteria for diagnosis of lymphedema is arm volume change (VC) from baseline >10% Early diagnosis and intervention are essential to decrease the likelihood of lymphedema progression

Methods

The patient cohort is part of a randomized, controlled trial comparing Axillary Lymph Node Dissection (ALND) with and without Immediate Lymphatic Reconstruction (ILR) in women with breast cancer at Memorial Soan Kettering

Patients included were those who underwent ALND without ILR and had at least 12 months of follow-up Arm volume measurements, Upper Limb Lymphedema 27 (ULL-27) Questionnaire, and compression use were collected at baseline and the 12-month post-operative visit

Normal VC was calculated based on the mean volume change and SD of the group of patients with normal lymphatic drainage after ALND based on ICG lymphography Arm VC criteria of 5.8%, 7.9%, and 10% were 1, 1.5, and 2 SD from Normal VC respectively

Hypothesis

Arm volume difference >10% alone does not capture a significant portion of patients experiencing lymphedema symptoms post-ALND

Table 1. Lymphedema Incidence, by Volume Alone



Table 2. Lymphedema Incidence, by Volume change

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Conclusion

Arm VC>10% is an arbitrary cut-off for the diagnosis of lymphedema that has not been studied or validated sufficiently

Arm VC>10% alone does not capture a significant portion of patients experiencing lymphedema symptoms post-ALND

The physical portion of the ULL-27 correlates significantly with Arm VC, however the strength of association is weak Many patients may not reach the 10% commonly used threshold to diagnose lymphedema because they are using compression and therefore BCRL may be underestimated

Diagnosis of lymphedema should include arm volume change, symptoms, and use of compression instead of arm volume alone