

Henry Ford Health

Henry Ford Health Scholarly Commons

Surgery Meeting Abstracts

Surgery

4-1-2022

The effect of lymphatic microsurgical preventive healing approach (LYMPHA) on the development of upper-extremity lymphedema following axillary lymph node dissection in breast cancer patients

Omar Qutob

Sanjay Rama

Lisa Black

Michele Zubalik

Jessica Bensenhaver

See next page for additional authors

Follow this and additional works at: https://scholarlycommons.henryford.com/surgery_mtgabstracts

Authors

Omar Qutob, Sanjay Rama, Lisa Black, Michele Zubalik, Jessica Bensenhaver, Lindsay Petersen, Saul D. Nathanson, Donna G. Tepper, Daniel Yoho, Maristella S. Evangelista, and Dunya M. Atisha

Table. Clinical staging and tumor characteristics of enrolled patients (N = 34)

	n (%)
Histology	
Ductal	31 (91)
Lobular	1 (3)
Mixed ductal/lobular	2 (6)
Clinical T-stage	
T1	2 (6)
T2	14 (41)
T3	16 (47)
T4b	2 (6)
Clinical N-stage	
N0	3 (9)
N1	29 (85)
N2	2 (6)
Multifocal and/or multicentric	25 (74)
ER status	
Positive	28 (82)
Negative	6 (18)
PR status	
Positive	24 (71)
Negative	10 (29)
Her2 status	
Positive	7 (21)
Negative	27 (79)

1147981 - The effect of lymphatic microsurgical preventive healing approach (LYMPHA) on the development of upper-extremity lymphedema following axillary lymph node dissection in breast cancer patients

Omar Qutob, Sanjay Rama, Lisa Black, Michele Zubalik, Jessica Bensenhaver, Lindsay Petersen, Saul D. Nathanson, Donna Tepper, Daniel Yoho, Maristella Evangelista, Dunya Atisha
Henry Ford Health System, Detroit, MI

Background/Objective: Lymphedema following axillary lymph node dissection (ALND) is a common complication that can negatively impact quality of life as it reduces the functional capacity of the affected arm. It can also predispose patients to serious infectious complications such as limb cellulitis and development of malignancy. The lymphatic microsurgical preventive healing approach (LYMPHA procedure) involves the creation of a lymphatic-to-venous bypass at the time of axillary lymph node dissection (ALND) as a means of preventing lymphedema. The goal of our study is to assess the effect of LYMPHA on the development of clinical and subjective post-operative lymphedema.

Methods: This is a prospective longitudinal study in patients with breast cancer who underwent ALND with or without LYMPHA. The incidence of lymphedema was compared between ALND alone and ALND with LYMPHA using descriptive statistics. Limb circumference of both affected and unaffected limbs were measured and used to calculate limb volume by using an equation that converts limb circumference (cm) to volume (cc). Lymphedema was defined as a volume difference of $\geq 10\%$ between the affected and unaffected limb. Patient symptoms were also assessed and compared between the 2 groups. Patient demographics including age, preoperative body mass index (BMI), smoking history, comorbidities, receipt of neoadjuvant or adjuvant chemotherapy, and receipt of adjuvant radiation were compared between the groups.

Results: In our cohort of 139 patients, 104 underwent ALND with LYMPHA, while 35 underwent ALND alone. Of these, 52.5% of patients had documented interlimb circumference measurements. The mean age was 52.6 years old, mean BMI was 30.16 kg/m², 4 patients (2.9%) had pre-operative radiation, 102 patients (73.4 %) had post-operative radiation, 86 patients (61.9 %) had neoadjuvant chemotherapy,

and 58 patients (41.7 %) had adjuvant chemotherapy. There were no significant differences between the 2 groups in the above demographics and treatment variables, except those who underwent ALND alone had a significantly higher incidence of diabetes mellitus (25.7% patients with ALND alone vs 11.5% LYMPHA patients ($p=0.043$)). Based on patient reported symptoms and the need to initiate complete decongestive therapy, 57.1% ($n=20$) of patients who underwent ALND alone developed lymphedema compared to 26.9% ($n=28$ patients) of those who had ALND with LYMPHA ($p=0.0011$). When comparing the relative volume difference, 57.1% ($n=8$) of ALND alone patients developed lymphedema versus 20.3% ($n=12$) of LYMPHA patients ($p=0.0055$).

Conclusions: Our data support the universal use of LYMPHA at the time of ALND as a means of preventing upper extremity lymphedema. Further studies are needed to evaluate quality of life and functional differences between those who had LYMPHA and those who did not.

1148562 - Axillary node positivity among suspicious but FNA-negative nodes

Thomas Robbins¹, Tanya Hoskin¹, Courtney Day¹, Mary Mrdutt¹, Tina Hieken¹, James Jakub², Judy Boughey¹, Amy Degnim¹

¹Mayo Clinic, Rochester, MN, ²Mayo Clinic Florida, Jacksonville, FL

Background/Objective: In the evaluation of breast cancer, fine needle aspiration (FNA) of sonographically suspicious axillary lymph nodes is helpful to clinically stage patients and guide consideration of neoadjuvant therapy. However, data are limited on pathology findings at definitive surgery in lymph nodes that are suspicious on axillary ultrasound (AUS) but FNA-negative. The primary objective of this study is to compare the frequency of SLN positivity between patients with negative AUS versus patients with suspicious AUS but negative FNA.

Methods: With IRB approval, we identified a consecutive series of clinically node-negative (cN0) patients with invasive breast cancer treated with upfront surgery at our tertiary care center between 2016-2021. A prospectively collected clinical registry data source was utilized, with additional retrospective review of medical records for clinical and pathologic features. Groups were compared using chi-square tests for nominal variables and Wilcoxon rank-sum tests for ordinal and continuous variables.

Results: A total of 1,668 cN0 patients with invasive breast cancer were analyzed, including 341 with a suspicious AUS and negative FNA (FNA_{neg} group) and 1,327 with negative AUS and no FNA performed (AUS_{neg} group). The FNA_{neg} group was younger (median 60 vs 65 years, $p<0.001$), had a higher cT stage (27.3% vs 18.7% with cT2-cT4 disease, $p=0.001$), and were more likely to have non-luminal biologic subtype (9.7% HER2+ and 7.0% TNBC vs 6.0% HER2+ and 5.1% TNBC, $p=0.02$). AUS_{neg} patients were more likely to have no surgical axillary staging (12.4%) compared to FNA_{neg} patients (7.6%, $p=0.01$). Among the 1477 with surgical axillary staging, the number of sentinel lymph nodes (SLNs) removed and identified pathologically were significantly higher in FNA_{neg} vs AUS_{neg} patients (mean 2.4 vs 2.2, $p=0.002$, and mean 2.8 vs 2.6, $p=0.006$) (see Table). Final axillary pathologic node positivity did not differ significantly between the FNA_{neg} and AUS_{neg} groups (18.7% vs 15.9%, $p=0.23$), nor did the number of SLNs positive, SLN metastasis size, likelihood of axillary dissection and associated additional disease, and final pathology N category. Among FNA_{neg} patients, 59/341 (17.3%) had a clip placed, with clipped node retrieved in 27/59 (45.8%), not retrieved in 10/59 (16.9%), and retrieval unknown in 22/59 (37.3%). A total of 26/27 retrieved clipped nodes were also SLNs (hot +/- blue), and 7/27 (25.9%) were positive