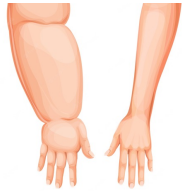


# THE DEVELOPMENT OF BREAST-CANCER RELATED LYMPHEDEMA AFTER MASTECTOMY IN A RURAL POPULATION: A SINGLE-INSTITUTION EXPERIENCE

Devin J. Clegg MD, Erica N. Whiteaker BS, Brett J. Salomon MD, Ashton J. Brooks MD, John L. Bell MD, FACS, Stefanos Boukovalas MD, Patricia N.E. Roberson PhD, Jillian M. Lloyd MD, MPH, FACS

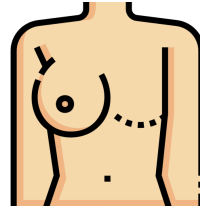


## Background:

- 1 in 5 patients develop breast-cancer related lymphedema (BCRL)
- National studies found increased risk with:
  - Older age
  - Obesity
  - Axillary lymph node dissection (ALND)
  - Chemotherapy
  - Radiation therapy
  - Postoperative complications
- No studies in rural population

## Purpose:

- **Are the risks the same for rural patients?**



## Methods:

- Retrospective review 2017-2021
- Prospectively enrolled tumor registry
- Single institution
- Largely rural population
- Diagnosed by surgeon during follow-up

## Demographics:

- 475 patients
- 97.2% female
- Average age of diagnosis 59.3 years
- Average BMI 29.1 kg/m<sup>2</sup>
- Average follow-up of 23.9 months
- 40 (8.4%) patients diagnosed with BCRL



## Significantly increased odds:

**Tumor involved lymph nodes**  
OR = 10.75,  $p < 0.001$



## **Adjuvant radiation**

OR = 9.31,  $p < 0.001$



## **ALND**

OR = 6.41,  $p < 0.001$



## **Adjuvant chemotherapy**

OR = 4.05,  $p < 0.001$



## **Adjuvant endocrine therapy**

OR = 2.64,  $p = 0.048$



## Significantly decreased odds:

**Breast reconstruction**  
OR = 0.43,  $p = 0.016$

## Limitations:

- Single medical center
- Retrospective
- Small sample size
- Diagnosed by surgeon at follow-up

## No significant association:

- Age at diagnosis
- BMI
- Diabetes
- Tobacco use
- Cancer type
- Neoadjuvant therapy
- Tumor hormone receptor status
- Postoperative complications
- Insurance type
- Family history of breast cancer
- Gender
- Unilateral or bilateral mastectomy

## Conclusions:

- Most risk factors are the same as previous literature.
- Many non-treatment related factors not significant in rural population.
- Highest increased odds with tumor involved lymph nodes.
- Protective effect of breast reconstruction.