Management of the axilla in invasive breast cancer (IBC) has shifted away from axillary lymph node dissection (ALND) and towards less invasive procedures, such as sentinel lymph node biopsy. A previous study utilizing the ACS-NSQIP database showed an overall national downward trend in ALND procedures being performed from 2007-2014. We hypothesized that there continues to be a downward trend in percentage of ALNDs performed for IBC and that this decline may correlate with an increase in operative time and morbidity.

**Background**

Methods

Patients with IBC were identified in the ACS-NSQIP database (2007 to 2017).

**Included ICD-9 & ICD-10 codes:**
- Malignant neoplasm of female breast
- Malignant neoplasm of male breast

**Included CPT codes were identified:**
- Partial mastectomy with axillary lymphadenectomy (19302)
- Modified radical mastectomy (19307)
- Superficial axillary lymphadenectomy (38740)
- Complete axillary lymphadenectomy (38745)

**Outcomes:**
- Percentage of patients with IBC undergoing ALND per year
- Average operative time for each procedure each year
  (Operative times of 0 minutes were excluded)
- 30 day mortality, superficial or deep surgical site infection, wound dehiscence, transfusion requirements and length of stay (calculated by days from operation to discharge) for each procedure by year

Cochran-Armitage trend test and linear regressions were used to determine presence of a significant increase or decrease in the included variables over the study period.

**Results**

The percentage of patients with IBC undergoing ALND significantly decreased over the study period (p<0.001). No significant trend in rates of superficial or deep surgical site infection, wound dehiscence, or 30 day mortality. With a significant decrease in reoperation rates (p<0.001), significant increase in perioperative transfusions (p<0.001) and no significant change in average operative time for any included procedure over the 10 year period.

**Conclusions**

Our study demonstrates that the decline in ALNDs performed for IBC does not correlate with an increase in surgical morbidity or mortality within the NSQIP population, which contradicts our hypothesis. There has not been a clear change in operative times over the last 10 years, suggesting that surgeons are still performing these procedures efficiently. There has been an increase in perioperative transfusions, but the significance of this finding remains unclear, as information related to cancer stage and axillary involvement is not available in the NSQIP database.

As fewer patients undergo ALND, the patients selected for these procedures likely have higher stage cancer with more axillary metastases, which could possibly contribute to outcomes. However, future research will be needed to assess this hypothesis.

**References**


**Contact Information:** Arielle Stafford, MD Arielle.Stafford@inova.org