Pathologic Staging Updates – Breast Cancer
Patrick L. Fitzgibbons, MD

Changes to AJCC 8th edition

- LCIS no longer included in pTis category
  - Removed because it is not treated as cancer
- Pleomorphic LCIS - also not included in pTis category due to insufficient evidence for definitive treatment recommendations
- (f) modifier added to N category
  - Indicates diagnosis made by either FNA or core needle biopsy
  - Usually applies to cN staging before definitive resection or neoadjuvant therapy
- (sn) and (f) modifiers
  - Denote confirmation of metastasis by SLN or FNA/needle biopsy with NO further resection of nodes
- The (sn) modifier is not restricted to sentinel nodes.
  - Applies when pN is not based on axillary dissection (fewer than 6 nodes).
- For tumor size, round to the nearest mm EXCEPT for tumors between 1 and 2 mm.
  - All tumors between 1 and 2 mm are rounded up to 2.0 mm to avoid misclassifying those between 1.0 and 1.5 mm as microinvasive (1.0 mm = pT1mi)

Clarifications from AJCC 7th edition

Staging multiple tumors

If in same breast:

- T category is based on single largest tumor focus
- Don't include satellite foci when measuring tumor size
- If multiple foci of microinvasion, report the # of foci and the size of the largest focus (don't combine)
- Use (m) modifier

If bilateral:

- Stage each side separately

Correlate gross, microscopic and imaging findings to assign correct pT when necessary.

- For small tumors diagnosed by core biopsy, measuring only the residual tumor in the excision may result in understaging.
  Examples:
  - 6 mm mass by imaging; largest focus in biopsy core – 4 mm
    - 2 mm focus of residual carcinoma in excision: categorize as pT1b (not pT1a)
    - No residual cancer in excision: categorize as pT1b (not pTX)
- Same rule applies when tumor is present in multiple fragments: Use clinical and imaging findings to assign pT
  - pTX should rarely be used

Skin involvement

- Satellite skin foci must be macroscopically identified and separate from the primary tumor (not contiguous).
- Direct extension into skin and skin involvement only identified microscopically are NOT categorized as pT4b. Such tumors are categorized based on tumor size.

- In the absence of clinical findings of inflammatory carcinoma (erythema and edema involving 1/3 of breast skin), dermal lymphatic tumor emboli are NOT categorized as pT4d.

Assessment following neoadjuvant therapy

- ypT is based on largest single focus of residual invasive carcinoma
- Treatment-related fibrosis around residual tumor is NOT included in the ypT dimension (don't measure tumor bed)
- Use the (m) modifier when multiple foci of residual tumor are present
- Cases with no residual invasive tumor are categorized as ypT0 or ypTis (not ypTX)
- Pathologic complete response (pCR) is defined as no residual invasive cancer – ypT0 N0 or ypTis N0
- Cases categorized as M1 before neoadjuvant therapy stay that way (i.e. they remain Stage IV even if there is pCR)

Assessment of N category

- Metastases to lymph nodes from the following sites are regional nodes and categorized as pN:
    - Axillary, intramammary, interpectoral, internal mammary and supraclavicular
- Metastases to any other lymph nodes (including cervical or contralateral internal mammary or contralateral axillary lymph nodes) are categorized as pM1
- Invasive tumor nodules in axillary fat without apparent nodal tissue are classified as regional lymph node metastases (pN)
    - When measuring ITCs, report size of largest contiguous focus. Don't sum the sizes or measure the overall area in which the ITCs are found
    - Nodes with isolated tumor cells (ITCs) only are not included in the overall count of positive nodes

    Example:
        - 10 nodes, 2 with macromets and 2 with ITCs
        - No. of positive nodes is 2/10 = pN1a (not 4/10 = pN2a)
    - If axillary dissection is done because of a positive SLN, combine the two to determine the pN category [and remove (sn) modifier]

    Example:
        - SLN biopsy done two weeks ago with 1 positive node; axillary dissection reveals 12 lymph nodes, 3 with metastases
        - Stage patient as pN2a (4/13)

Microscopic disseminated tumor clusters (DTCs)

- Tumor deposits ≤0.2 mm that are detected inadvertently (e.g. following prophylactic oophorectomy)
- In the absence of clinical findings of metastatic disease, these deposits alone are NOT classified as pM1
- Should be classified as cM0(i+)

Prognostic Stage Grouping

Anatomic Stage Group

- T, N, M only

Prognostic Stage Group

- includes T, N, M, grade, biomarkers and multigene panels
- To be used for reporting of all cancer patients in the U.S.

Impact of Prognostic Stage Group system

- 41% of patients reassigned to a stage group higher or lower than would be assigned by anatomic extent of disease alone
- Node negative, ER(+), HER2(-) and low risk recurrence score by multi-gene panel* is staged as pT1 regardless of tumor size
- Markedly improves grouping patients with similar prognosis
- Patient should still be assigned a purely anatomic stage even if prognostic staging is done

References

Hortobagyi GN, Connolly JL, D'Orsi CJ, et al. Breast. In: Amin MA, ed. AJCC Cancer Staging Manual., 8th ed. Springer; 2017:589-628.