Pathologic Staging Updates – Breast Cancer

- Changes to AJCC 8th edition
- Clarifications from AJCC 7th edition
- Prognostic Stage Grouping

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

Changes to AJCC 8th edition

- (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

Changes to AJCC 8th edition

- (sn) and (f) modifiers
  - Denote confirmation of metastasis by SLN or FNA/needle biopsy with NO further resection of nodes

Note: The (sn) modifier is not restricted to sentinel nodes. Applies when pN is not based on axillary dissection (fewer than 6 nodes).
Changes to AJCC 8th edition

- 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 (T1mi)
    - 1.0 mm = pT1mi
    - >1.0 mm = pT1a

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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

Clarifications from AJCC 7th edition

Staging multiple tumors
- If bilateral:
  - Stage each side separately

Clarifications from AJCC 7th edition

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 understage the tumor

Example:
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)
Clarifications from AJCC 7th edition

Correlate gross, microscopic and imaging findings to assign correct pT when necessary.
- 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
Clarifications from AJCC 7th edition

Assessment following neoadjuvant therapy
- 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)

- Nodes with isolated tumor cells (ITCs) only are not included in the overall count of positive nodes
  Example:
  - 10 nodes: 2 with macromets; 2 with ITCs
  - No. of positive nodes is 2/10 = pN1a (not 4/10 = pN2a)

- When measuring ITCs, report size of largest contiguous focus (NOT the overall area in which the ITCs are found)

- If axillary dissection is done because of a previous SLN, combine the two to determine the pN category [and remove (sn) modifier]
  Example:
  - SLN biopsy two weeks ago with 1 positive node
  - Axillary dissection reveals 12 lymph nodes, 3 with metastases
  - Stage patient as pN2a (4/13)
Clarifications from AJCC 7th edition

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+)

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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.

Multi-gene panels
- Node negative, ER(+), HER2(-) and low risk recurrence score by multi-gene panel* is staged as pT1 regardless of tumor size

*Oncotype Dx®, Mammaprint®, PAM50, EndoPredict®, etc

Prognostic Stage Grouping

Anatomic Stage Group

Prognostic Stage Group

T N M Grade ER PgR HER2 Stage Group
T1 N0 M0 1 Any Any Neg IA
T1 N0 M0 2 Pos Pos Pos IA
T1 N0 M0 3 Pos Any Pos IA
T1* N1mi M0 1 Any Any Pos IA
T2** N0 M0 Any Pos Any Neg IA

*Changed from IB to IA
**With low risk score on multi-gene assay (changed from IIA to IA)
### Prognostic Stage Group

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*Changed from IIB to IB
**Changed from IIIA to IB

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*Changed from IIB to IIIC
**Changed from IIIA to IIIC

### Prognostic Stage Grouping

- 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
  - Markedly improves grouping patients with similar prognosis
  - Patient should still be assigned a purely anatomic stage even if prognostic staging is done

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