Breast Cancer Staging

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NorthShore HealthSystem
Executive Committee, AJCC
History & Physical

• 56 year old female who noticed a 3.5 cm left UIQ breast mass

• Multiple enlarged, mobile left axillary nodes. No supraclavicular adenopathy

• Remaining examination normal

• Family history negative
Imaging and Biopsy

- Imaging shows mass; no other findings on mammogram or MRI in either breast

- Ultrasound-guided core needle biopsy UIQ left breast mass and left axillary node (with clip placement for both)

- Pathology: infiltrating ductal carcinoma (IDC)
  - Grade 3 Nottingham
  - ER negative, PR negative, HER-2 negative
  - Lymph node positive for metastatic carcinoma
Clinical Prognostic Stage – T, N, M and Biomarkers

• Clinical staging
  • Information from the physical exam, imaging, and diagnostic biopsy

• Purpose
  • Select appropriate treatment
  • Estimate prognosis

• Stage using clinical prognostic staging table

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Multidisciplinary Evaluation and Initial Treatment

• Presentation at Multidisciplinary Breast Conference

• Based on:
  – Clinical Prognostic Stage IIIB
  – Clear indication and value of chemotherapy
  – Potential value of cytoreduction of primary and nodal disease
  – Option to receive additional chemo with incomplete response

• The patient was offered and received neoadjuvant multi-agent chemotherapy
Clinical Response and Surgery

• At completion of chemotherapy:
  – Left breast mass and abnormal axillary nodes not palpable
  – Imaging including MRI shows resolution of mass and enlarged nodes

• Complete clinical response to neoadjuvant chemotherapy

• Seed localized lumpectomy and axillary node biopsy; sentinel node biopsy
Pathology

• Breast:
  – Background of fibrosis (evidence of treatment effect) with multiple foci of Nottingham Grade 3 IDC. No focus larger than 3 mm
  – Margins negative, closest margin is 5 mm posterior margin

• Left axillary nodes:
  – Seed localized axillary node and 3 sentinel nodes negative
    • Seed localized node and one sentinel node with fibrosis suggestive of treatment effect.
Pathologic Prognostic Staging

- Pathological staging
  - Information from y-clinical staging, operative findings, and resected pathology specimen
- Purpose
  - Additional precise data for estimating prognosis
  - Calculating end results (survival data)
- Use Pathological Prognostic Stage

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### Pathologic Prognostic Stage

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Stage  ___

4224 possible combinations.
Pathologic Prognostic Stage

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With anatomic stage aggregation, **120 possible combinations in 305,000 patients**
### Pathologic Prognostic Stage for Neoadjuvant

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720 possible combinations for 44,000 patients
Question 3: What are the Correct Pathologic Categories?

A. pT2  pN1
B. pT1a  pN1a
C. ypT1a(m) ypN0 (sn)
D. ypT1a  ypN1
What are the Correct Pathologic Categories?

A. pT2   pN1
B. pT1a   pN1a
C. ypT1a(m) ypN0 (sn)
D. ypT1a   ypN1
• Pathologic staging with prior editions have never factored utilization or response of neoadjuvant therapy.

• Current data sets not sufficient to assign post-neoadjuvant stage group
  – No standardization for classification of tumor response
    • Residual cancer burden index not widely used / not recorded in registry
  – Absence of large data sets with response data
Enhanced staging after neoadjuvant therapy: Clear need for staging revisions

• Need to define stage for assigning prognosis and defining therapy post-initial chemotherapy and surgery

• Value for population studies

• Numerous efforts underway worldwide to standardize reporting and to improve post-therapy staging
Need for Revisions

• Clinical Prognostic Stage is important to utilize for all patients regardless of order of therapy.

• Pathologic Prognostic Stage provides more granular detail to select subsequent therapy

• Pathologic Prognostic Stage following neoadjuvant therapy includes prognostic variables used in Clinical Prognostic Stage as well as interactions with therapy, requiring more robust datasets.
AJCC established in 1959 (60th Anniversary!)
Formulate and publish systems of classification of cancer, including staging and end-results reporting
Goal: Create acceptable tools to be used by the medical profession for selecting the most effective treatment, determining prognosis, and continuing evaluation of cancer control measures
8th Edition Published October 6, 2016
Effective for all cases diagnosed as of January 1, 2018
Breast Staging 8th Edition

• Review site-specific information & rules

• Clinical Prognostic Staging
  
  Based on information before treatment
  Used to select treatment options

• Pathological Prognostic Staging
  
  Based on clinical data PLUS operative findings
  resected specimen pathology report
  Used to evaluate end-results (survival)
Important points to consider

- Clinical and Pathologic staging tables are different
- Nottingham grade must be provided by pathologist. Nuclear grade is not sufficient
- T1mi must be $\leq$ 1 mm. Do not round down a 1.2 mm tumor. Assign T1a
- Anatomic staging is not to be used in the United States
- A rolling update may include specific staging guidelines for genomic assays other than Oncotype
- Don’t use 7th edition stage groups – they are different!
- Stage assignments assume patients will follow clinical treatment guidelines
Breast Staging 8th Edition

- https://cancerstaging.org
- Ordering information: Cancerstaging.net
- Submit questions to AJCC Forum: http://cancerbulletin.facs.org/forums/
- Twitter: @AJCCancer