

# AJCC Staging Moments

AJCC TNM Staging 8th Edition

Breast Case #3



AJCC

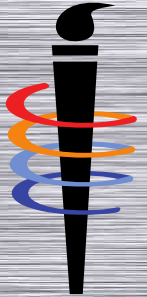
**American Joint Committee on Cancer**

Validating science. Improving patient care.

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# Breast Case # 3

## Presentation of New Case

- Newly diagnosed breast cancer patient
- Presentation at Cancer Conference for treatment recommendations and clinical staging



# Breast Case # 3

## History & Physical

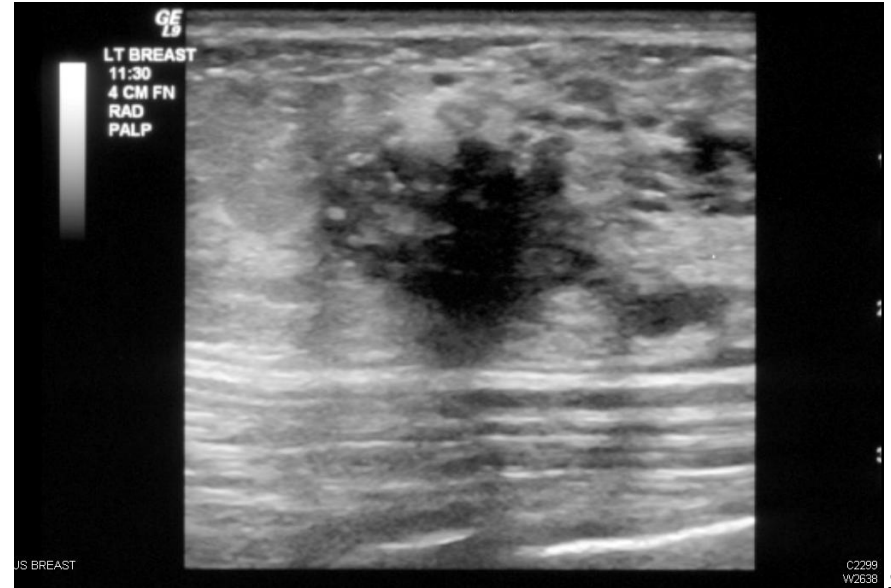
- 56 yr old female who noticed a mass in her breast left breast
- Physical examination reveals 3.5cm hard mass upper inner quadrant (UIQ) left breast, multiple axillary nodes are enlarged and firm but movable
- Family history negative



# Breast Case # 3

## Imaging Results

- Mammogram-3.8cm density UIQ left breast, right breast negative
- Ultrasound breast-4.0cm hypoechoic area 11:30 left breast, left axilla showed a 1.5cm abnormal node



Used with permission



# Breast Case # 3

## Diagnostic Procedure

- Procedure
  - Ultrasound-guided core needle biopsy UIQ left breast mass (with clip placement)
  - Left axillary node core biopsy
- Pathology left breast:
  - Infiltrating ductal carcinoma (IDC)
  - Grade 3 Nottingham
  - ER negative, PR negative, HER-2 negative
- Pathology left axillary node:
  - Positive for metastatic ductal carcinoma



# Breast Case # 3

## Clinical Staging

- Clinical staging
  - Uses information from the physical exam, imaging, and diagnostic biopsy
- Purpose
  - Select appropriate treatment
  - Estimate prognosis



# Breast Case # 3

## Clinical Staging

- Synopsis: patient with 4.0cm mass, infiltrating duct ca, axilla is positive on exam, imaging, and core needle biopsy
- What is the clinical stage?
  - T\_\_\_\_\_
  - N\_\_\_\_\_
  - M\_\_\_\_\_
  - Grade\_\_\_\_\_
  - HER2\_\_\_\_\_
  - ER\_\_\_\_\_
  - PR\_\_\_\_\_
  - Stage Group\_\_\_\_\_





# Breast Case # 3

## Clinical Staging

- Clinical Stage correct answer
  - cT2
  - cN1(f)
  - cM0
  - Grade 3
  - HER2 negative
  - ER negative
  - PR negative
  - Stage Group IIIB
- Based on stage, treatment is selected
- Review treatment guidelines for this stage



# Breast Case # 3

## Clinical Staging

- Rationale for staging choices
  - cT2 because the tumor size is  $>2\text{cm}$  and  $\leq 5\text{cm}$
  - cN1(f) because nodes were clinically positive on physical exam, imaging, and core needle biopsy
  - cM0 -no symptoms/signs to suggest mets. Imaging not necessary but done to screen for occult mets, depending on clinical judgement.
  - Grade 3
  - HER2 negative
  - ER negative
  - PR negative
  - Stage group IIIB



# Breast Case # 3

## Initial Treatment

- Presentation at Cancer Conference for initial treatment recommendations:
  - The patient was offered and received primary multi-agent chemotherapy based on the 4.0cm, triple-negative IDC and microscopically positive axillary nodes



# Breast Case # 3

## Treatment Options

- Review treatment guidelines for this stage
- Discuss appropriate treatment plans for this patient



# Breast Case # 3

## Clinical Response

- 4 months after start of chemotherapy:
  - Left breast mass and abnormal axillary node are no longer palpable
  - Imaging by U/S only shows clip and no other abnormality
- Patient considered to have a complete clinical response to neoadjuvant chemotherapy
- May be assigned a posttherapy y-clinical (yc) stage



# Breast Case # 3

## Surgery & Findings

- Procedure
  - Mammographically wire-localized left breast lumpectomy of UIQ residual clip
  - Therapeutic level I, II left axillary dissection
  
- Operative findings
  - Specimen radiograph shows initial clip in center of specimen



# Breast Case # 3

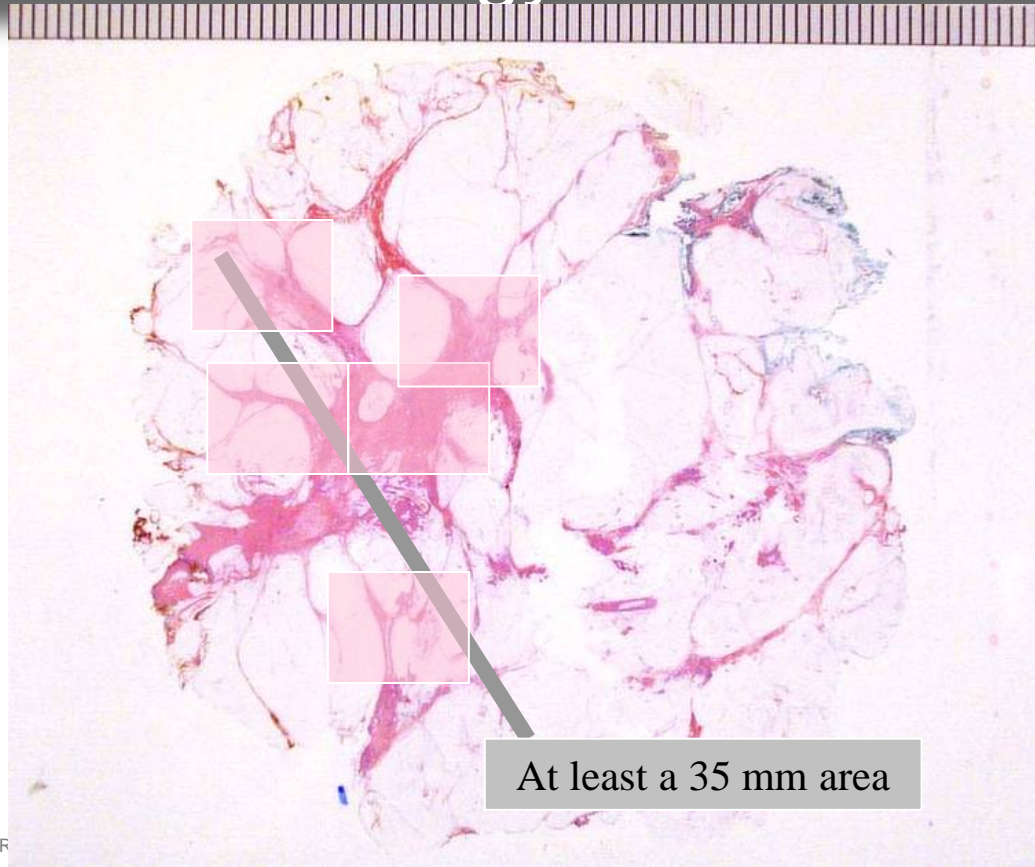
## Pathology Results

- 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 5mm posterior margin.
- Left axillary nodes:
  - 13 nodes - 2 fibrotic (suggestive of treatment effect) without definite evidence of invasive carcinoma, except for foci < 0.2 mm in each of these 2 nodes



# Breast Case # 3

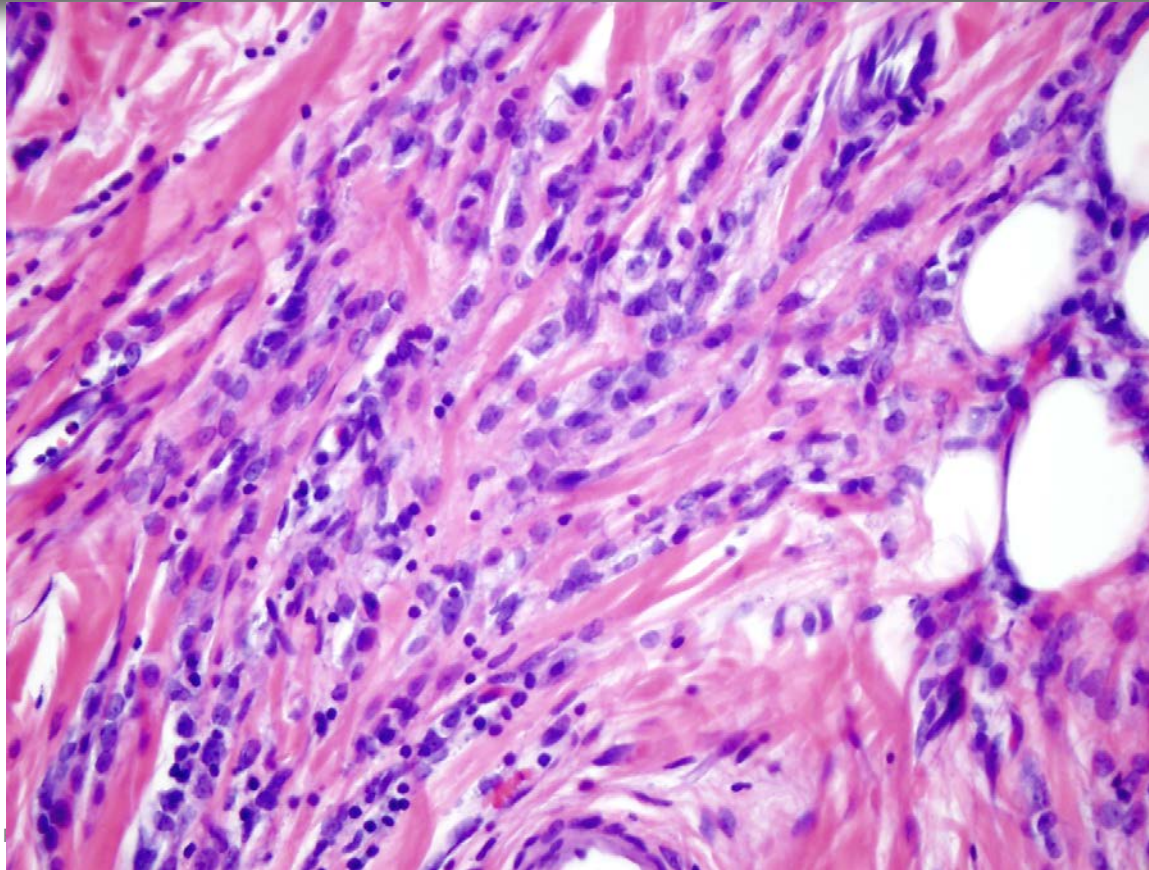
## Low Power Pathology





# Breast Case # 3

## High Power Pathology of Center Box



# Breast Case # 3

## Posttherapy y-pathological Staging

- Posttherapy y-pathological staging
  - Uses information from y-clinical staging after neoadjuvant therapy, operative findings, and resected specimen pathology report
  - yp is assessment at conclusion of neoadjuvant therapy followed by surgical resection
- Purpose
  - Additional precise data for estimating prognosis
  - Calculating end results (survival data)
  - yp – extent of response to neoadjuvant therapy followed by surgical resection



# Breast Case # 3

## Posttherapy y-pathological Staging

- Synopsis: patient with microscopic residual foci breast IDC none >3mm, and microscopic foci met ca in 2/13 axillary nodes, none >0.2mm
- What is the posttherapy y-pathological stage?
  - T\_\_\_\_\_
  - N\_\_\_\_\_
  - M\_\_\_\_\_
  - Grade\_\_\_\_\_
  - HER2\_\_\_\_\_
  - ER\_\_\_\_\_
  - PR\_\_\_\_\_
  - Stage Group\_\_\_\_\_



# Breast Case # 3

## Posttherapy y-pathological Staging

- Posttherapy y-pathological Stage correct answer
  - ypT1a(m)
  - ypN0(i+)
  - cM0
  - Grade 3
  - HER2 negative
  - ER negative
  - PR negative
  - ypStage Group not assigned
- Based on y-pathological info, there is more information to estimate prognosis and adjuvant treatment is selected



# Breast Case # 3

## Posttherapy y-pathological Staging

- Rationale for staging choices
  - ypT1a(m) because the residual invasive tumor after neoadjuvant chemotherapy followed by surgery has multiple foci of IDC with sizes between 0.1mm and 5mm. (m) denotes multiple foci. Individual sizes of foci are not added to assign final T category size.
  - ypN0(i+) for isolated tumor cells
  - cM0 – classified by M status prior to therapy
  - Grade 3 Nottingham
  - HER2 negative
  - ER negative
  - PR negative
  - Posttherapy y-pathological does not currently have stage groups for breast



# Breast Case # 3

## Posttherapy y-pathological Nodal Status

- Posttherapy nodal metastases  $\leq 0.2\text{mm}$  are classified as ypN0(i+)
  - i+ definition is same as patients without neoadjuvant therapy
  - However... These are NOT considered to have achieved pCR



# Prognostic Factors/Registry Data Collection

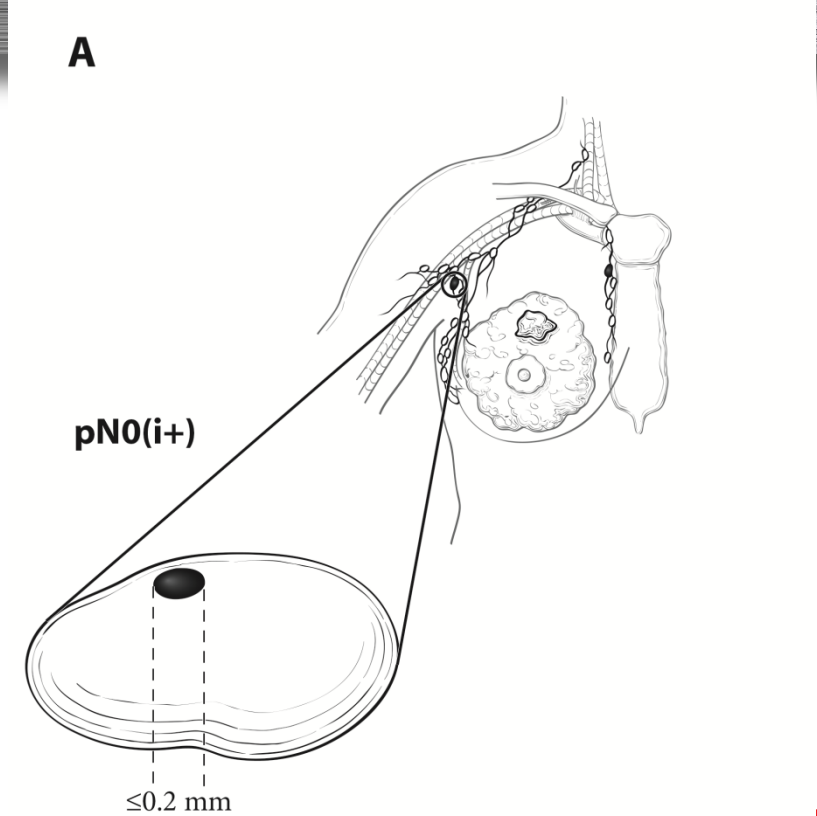
- Applicable for management of this case
  - Estrogen receptor: percent positive, Allred score
  - Progesterone receptor: percent positive, Allred score
  - HER2: IHC and FISH results
  - Ki67, if available: % positive
  - Response to treatment: PR





# pN0 (i+)

pN0(i+) is defined as positive ITCs found on H&E or IHC, no ITCs >0.2mm



Hortobagyi, Connolly, et al. Breast. In Amin, M.B., Edge, S.B., Greene, F.L., et al. (Eds.) AJCC Cancer Staging Manual. 8th Ed., 2017





# Breast Case # 3

## Recap of Staging

- Summary of correct answers
  - Clinical stage cT2 cN1(f) cM0 Gr 3 HER2- ER- PR- Stage Group IIIB
  - Posttherapy y-pathological stage ypT1a(m) ypN0(i+) cM0 Gr 3 HER2- ER- PR- ypStage Group not assigned
- The staging classifications have a different purpose and therefore can be different. Do not change clinical staging based on posttherapy y-pathological staging information.



# Staging Moments Summary

- Review site-specific information & rules
- Clinical Staging
  - Based on information before treatment
  - Used to select treatment options
- Posttherapy y-pathological Staging
  - Based on clinical data after neoadjuvant therapy but before surgery, PLUS operative findings and resected specimen pathology report following neoadjuvant therapy
  - Assesses response to treatment
  - Used to evaluate end-results (survival)

