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Breast Case # 2
Presentation of New Case

• Newly diagnosed breast cancer patient

• Presentation at Cancer Conference for treatment recommendations and clinical staging
Breast Case # 2
History & Physical

• 62 yr old woman noticed a non-tender mass in the upper outer quadrant (UOQ) of the left breast

• Family hx-breast ca in maternal aunt at age 70

• Physical examination reveals a firm, mobile, 4 cm mass in the UOQ with no overlying skin changes and no palpable adenopathy
Breast Case # 2

Imaging Results

• Mammogram: 3.9cm density UOQ left breast, right breast negative

• Ultrasound breast: 3.8cm hypoechoic area UOQ left breast, left axillary nodes negative, right breast negative
Breast Case # 2
Diagnostic Procedure

• Procedure
  – Ultrasound-guided core needle biopsy UOQ left breast

• Pathology Report
  – Infiltrating duct carcinoma
  – Nottingham Grade 3
  – Estrogen receptor positive
  – Progesterone receptor positive
  – HER2 negative by IHC
Breast Case # 2
Clinical Staging

• Clinical staging
  – Uses information from the physical exam, imaging, and diagnostic biopsy

• Purpose
  – Select appropriate treatment
  – Estimate prognosis
Breast Case # 2
Clinical Staging

• Synopsis: patient with 3.9cm mass, infiltrating duct ca, axilla is negative on exam and imaging

• What is the clinical stage?
  – T____
  – N____
  – M____
  – Grade___
  – HER2___
  – ER_____
  – PR_____
  – Stage Group_______
Breast Case # 2
Clinical Staging

• Clinical Stage correct answer
  – cT2
  – cN0
  – cM0
  – Grade 3
  – HER2 negative
  – ER positive
  – PR positive
  – Stage Group IIA

• Based on stage, treatment is selected
• Review treatment guidelines for this stage
Breast Case # 2
Clinical Staging

• Rationale for staging choices
  – cT2 for 3.9cm primary tumor
  – cN0 because nodes were clinically negative on physical exam and imaging
  – cM0 because there was nothing to suggest distant metastases; if there were, appropriate tests would be performed before developing a treatment plan
  – Grade 3 based on Nottingham
  – HER2 negative
  – ER positive
  – PR positive
  – Stage group is IIA according to the Clinical Prognostic table
Breast Case # 2
Treatment Options

• Review treatment guidelines for this stage

• Discuss appropriate treatment plans for this patient
Breast Case # 2
Surgery & Findings

• Patient declined option of neoadjuvant systemic therapy

• Procedure
  – Lumpectomy UOQ left breast, sentinel lymph node (SLN) biopsy

• Operative findings
  – Sentinel nodes were reported as negative on frozen section, additional stains will be performed
Breast Case # 2
Pathology Results

• Infiltrating duct carcinoma
• Size of invasive cancer: 4.1cm with dermal invasion
• Nottingham Grade 3
• Margins of resection negative – closest margin inferior at 4mm
• Sentinel nodes
  – Negative by H&E
  – Sentinel Node 1 – cytokeratin immunohistochemistry shows
    cluster of isolated tumor cells (ITCs), <0.1mm in size
Breast Case # 2
Pathological Staging

• Pathological staging
  – Uses information from clinical staging, operative findings, and resected specimen pathology report

• Purpose
  – Additional precise data for estimating prognosis
  – Calculating end results (survival data)
Breast Case # 2
Pathological Staging

• Synopsis: patient with 4.1cm infiltrating duct ca, 1 sentinel node with ITCs detected only on IHC

• What is the pathological stage?
  – T____
  – N____
  – M____
  – Grade_____  
  – HER2____
  – ER______
  – PR______
  – Stage Group______
Breast Case # 2
Pathological Staging

• Pathological Stage correct answer
  – pT2
  – pN0(i+)(sn)
  – cM0
  – Grade 3
  – HER2 negative
  – ER positive
  – PR positive
  – Stage Group IB

• Based on pathologic stage, there is more information to estimate prognosis and adjuvant treatment is selected
Breast Case # 2
Pathologic Staging

• Rationale for staging choices
  – pT2 Skin invasion is defined as full thickness involvement including epidermis. Focal dermal involvement is not considered T4
  – pN0(i+)(sn) sentinel nodes had ITCs found on IHC, H&E stains negative. ITCs considered negative nodes. Designate as SLN.
  – cM0 - use clinical M with pathologic staging unless there is microscopic confirmation of distant metastases
  – Grade 3 based on Nottingham
  – HER2 negative
  – ER positive
  – PR positive
  – Stage group is IB according to the Clinical Prognostic table
Prognostic Factors/Registry Data Collection

• Applicable to this case
  – Estrogen receptor: percent positive, Allred score
  – Progesterone receptor: percent positive, Allred score
  – HER2: IHC and FISH results
  – Ki67:
pN0 (i+)

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

Breast Case # 2
Recap of Staging

• Summary of correct answers

  – Clinical stage cT2 cN0 cM0 Gr 3 HER2- ER+ PR+ Stage Group IIA

  – Pathologic stage pT2 pN0(i+) (sn) cM0 Gr 3 HER2- ER+ PR+
    Stage Group IB

• The staging classifications have a different purpose and therefore can be different. Do not go back and change the clinical staging based on pathologic staging information.
Staging Moments Summary

• Review site-specific information & rules

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

• Pathologic Staging
  – Based on clinical data PLUS operative findings and resected specimen pathology report
  – Used to evaluate end-results (survival)