Cancer PROGRAMS

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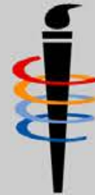

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American Joint Committee on Cancer

Validating science. Improving patient care.

Challenges in Cancer Staging after Neoadjuvant Treatment

David R. Byrd, MD

Chair, AJCC

AMERICAN COLLEGE OF SURGEONS

Inspiring Quality: Highest Standards, Better Outcomes

Neoadjuvant Treatment of Solid Tumors

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- The clinical case for neoadjuvant treatment for solid tumors
- The problem
- Current trends and future possibilities
- What data needs collecting, how is it found?
- What is in our AJCC 8th Ed Cancer Staging Manual?
- Evaluation of response
- How is cTNM linked to yTNM?
- Case for collecting ycTNM when there is no ypTNM

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The Clinical Case

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- Life-threatening aspect of cancer is distant spread of disease
- Adjuvant chemotherapy after surgery given since 1970's to improve survival
  - Cancer staging was only cTNM and pTMN after surgery, before adjuvant treatment given
  - However, survival curves included both surgery and adjuvant treatment (if given)
- Neoadjuvant systemic therapy began with treatment for locally advanced tumors
- Neoadjuvant radiation therapy +/- systemic therapy now standard for certain sites (rectal carcinoma)

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Problems on Multiple Fronts

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- Data not collected in CoC hospitals
- Fields don't exist or poorly defined
- Registry community overwhelmed catching up on 2018 cases using 8th Ed
- Data not needed/used by surveillance community
- Neoadjuvant treatment increasing

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Neoadjuvant Systemic Therapy

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- Given with therapeutic intent before surgery:
  - Treats occult distant at earliest possible time
  - Reveals tumor sensitivity to systemic agent: responder or non-responder
  - Reduce local tumor burden to allow less surgery (sometimes no surgery)
- Usually infusional chemotherapy
- Oral hormonal therapy
- Future applications – oral targeted therapy or infusional immunotherapy

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Neoadjuvant Radiation Therapy

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- Neoadjuvant radiation therapy (usually combined with chemotherapy):
  - Reduces local tumor burden to allow less surgery (sometimes no surgery)
  - Improves final pathological surgical margins
  - Caution, radiation only provides local treatment
    - During this window of local tumor treatment
    - Occult distant disease may become overt

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Understanding Stage Classifications

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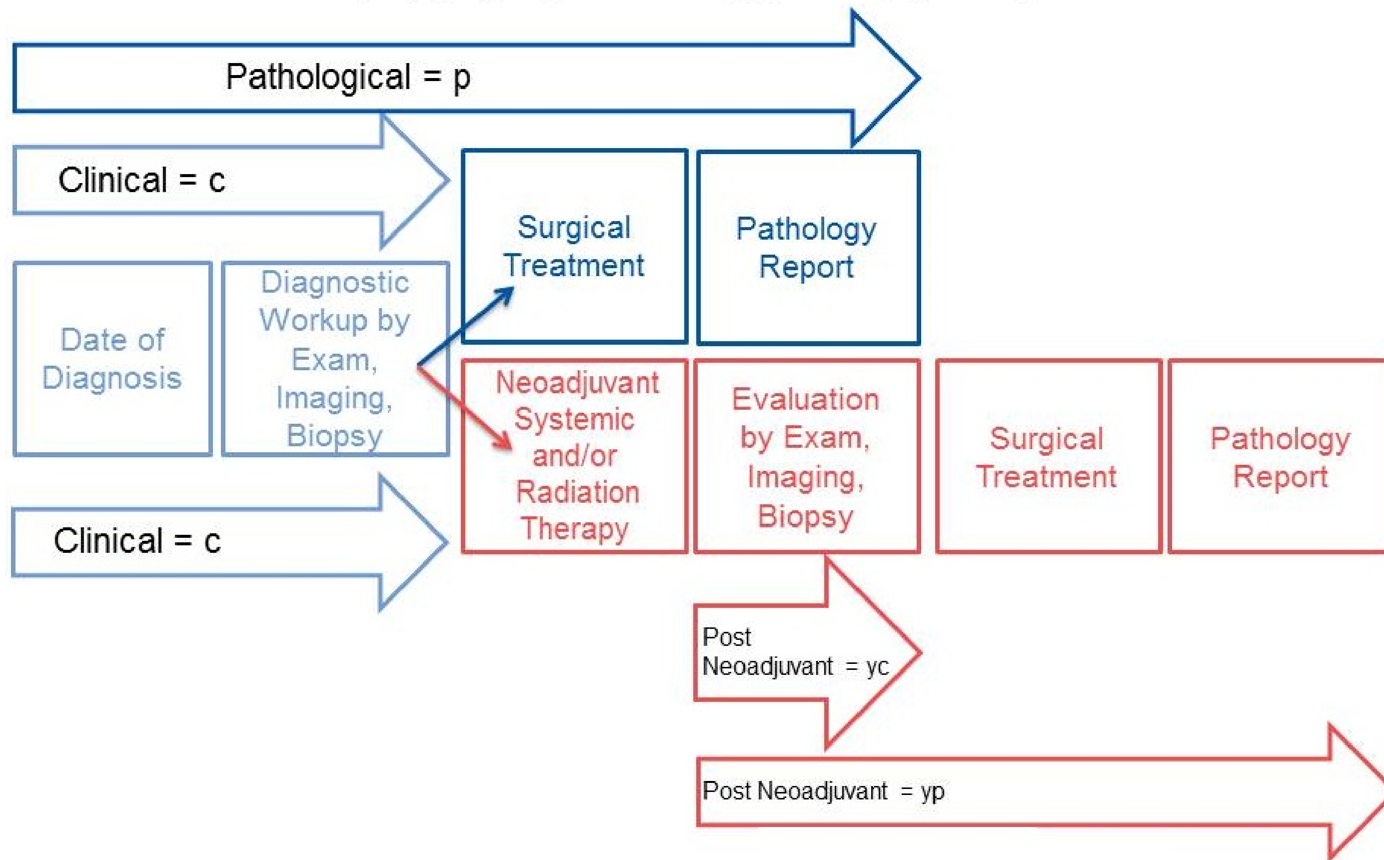

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What is in AJCC 8th Ed Staging Manual?

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- Majority of solid tumors (including lung, colorectal, prostate, most head and neck carcinomas)
  - Single prognostic stage group table
  - No separation of clinical and pathological stage groups
- Breast, melanoma, and Merkel cell carcinoma
  - Separate clinical and pathological stage group tables
- Esophageal & Stomach carcinomas
  - Separate clinical, pathological, and posttherapy (yp) stage group tables

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Duration/Intent of Neoadjuvant Treatment

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- Usually several months with short recovery period before definitive surgery

- Neoadjuvant treatment may terminate early due to
  - Toxicity of treatment or
  - Progression of disease

- A short run-in (days or weeks) course of chemo or hormone therapy
  - Looks for early markers of response
  - NOT considered or included as neoadjuvant treatment for staging purposes

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Evaluation of Response

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- Response of local regional tumor is complete (CR), partial (PR), no response (NR), or progression
  - Evaluation made by
    - Clinical exam
    - Serial imaging
    - Scopes and biopsies

- Response of occult distant metastases is progression or no progression
  - Evaluation made by
    - Symptoms/imaging
    - Rarely clinical exam

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Neoadjuvant Complete Response

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- cT2 cN1 cM0 invasive ductal carcinoma. Neoadjuvant chemo (completed planned 6 cycles) followed by MRM. Final pathology shows no residual tumor, 13 negative nodes.

- Neoadjuvant therapy destroyed all tumor, complete pathological response
- ypT0 ypN0 cM0 stage 99
- Entered into data item for posttherapy staging
- Reminder - must meet criteria for neoadjuvant

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Neoadjuvant - No Response

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- cT2 (4.1 cm) cN0 cM0 invasive ductal carcinoma. Neoadjuvant chemo (completed planned 6 months). Post chemo imaging shows 6.5 cm ycT3 (no response). Pathology of mastectomy shows 7.7 cm residual tumor, 0/3 sentinel nodes, ypT3 ypN0.

- Assign posttherapy yp staging ypT3 ypN0 cM0
- Some patients do not respond to neoadjuvant therapy
- Currently, this is considered progressive disease and staging stops
  - Data collected now only includes cases that responded, resulting in skewed analysis
  - Overall effectiveness of neoadjuvant therapy is overestimated

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Challenges of yc Classification

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- yc not being collected
- yp will trump yc
  - Currently: ?80% patients receiving neoadjuvant treatment have yp, therefore yc not essential
  - Future: fewer patients have resection of primary tumor or regional nodes
- Timing of yc evaluation depends on specific treatment and response
- Clinical exam and imaging essential to evaluate response
  - Neither currently has synoptic reporting or defined data fields
- Number of expanded fields needed is not great, but complexity of accurate collection is great

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AJCC Web site

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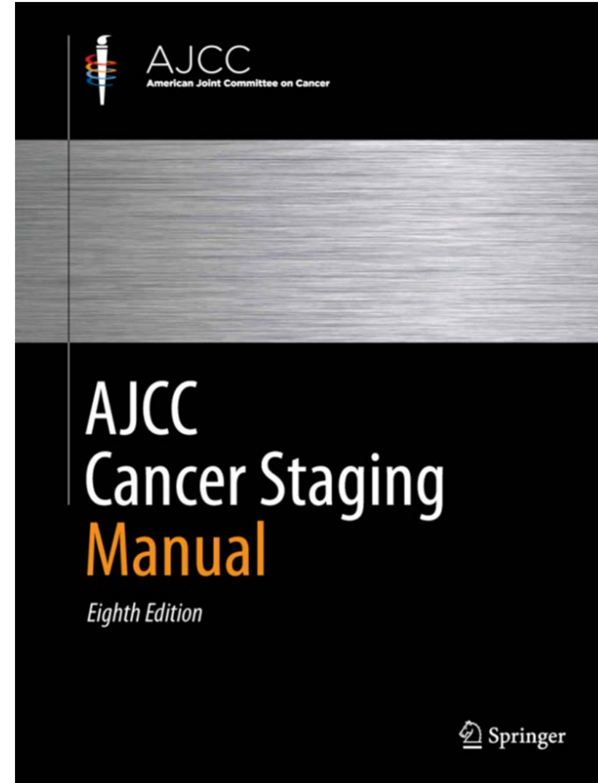
https://cancerstaging.org

General information

- Education
- Articles
- Updates

NEW

- Staging Moments



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CAnswer Forum

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Submit questions to AJCC Forum

- NEW 8th Edition Forum
- 7th Edition Forum will remain
- Located within CAnswer Forum
- Provides information for all
- Allows tracking for educational purposes

http://cancerbulletin.facs.org/forums/

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