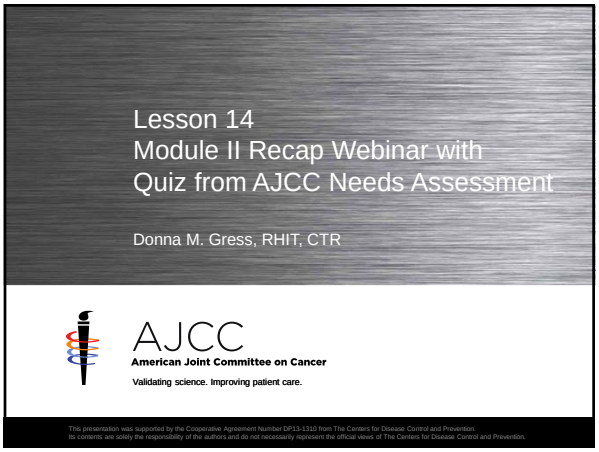

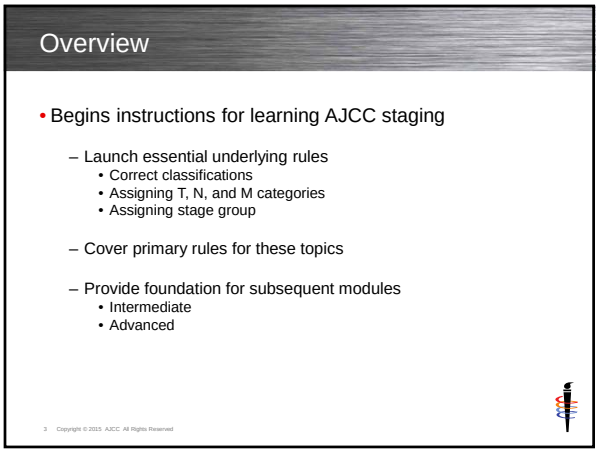

Learning Objectives

- Demonstrate correct usage of classifications
- Employ principles of assigning T, N, and M categories
- Distinguish choices for assigning stage group
- Illustrate critical thinking skills in applying AJCC rules
- Utilize additional materials
- Evaluate self-guided learning through webinar and quiz

Quiz

Lesson 8
Classifications

Clinical – Time Frame

- Diagnostic workup – defined in next bullet
- From
  - Moment of diagnosis
  - Through diagnostic workup
  - Until / before first treatment
- First treatment includes
  - All therapeutic modalities
  - Active surveillance or watchful waiting
  - Decision not to treat
- Staging stops if documented progression of disease
- In absence of documentation, 4 month cutoff allowed

Clinical – Information Included

- Clinical history and symptoms
- Physical exam
- Lab tests
- Imaging
- Endoscopy
- Biopsy of primary site
- Biopsy of regional lymph nodes
- Biopsy of distant metastatic site
- Surgical exploration without resection
- Other relevant exams and diagnostic procedures

Clinical – Purpose and Use

- Define prognosis
- Select initial therapy / treatment
- Used for comparisons
  - Only point in time all patients can be compared
  - Differences in primary therapy impede later comparisons
- TNM or cTNM

Pathologic – Time Frame

- Diagnostic workup through definitive surgical treatment
- From
  - Moment of diagnosis
  - Through diagnostic workup
  - Including operative findings during surgical resection/treatment
  - Including pathology report findings from surgical resection/treatment
- Surgical resection/treatment defined
  - In AJCC Chapters
  - Different based on anatomy & biology
  - Varies from resection of tumor to resection of organ/structure
- In absence of documentation, 4 month cutoff allowed

Pathologic – Information Included

- Encompasses 3 equal pieces
  - All clinical classification information
  - Operative findings
  - Pathology report of resected specimen
- Clinical information is a valid piece
  - Used unless disproven by operative findings and/or path report
- Operative findings contribute to stage
  - Does not have to be sampled to be included
  - Surgeon judgment can be used to assign stage
- Pathology report is NOT the final word for stage
  - Helpful information but must look at other pieces of info
  - Can NEVER assign stage group if no distant mets

Pathologic – Purpose and Use

- Most precise prognosis
- Select subsequent/adjuvant therapy
  - Systemic or radiation therapy needed based on surgery results
- Provides additional precise and objective data
  - More precise than clinical classification
  - Used for survival and outcomes data
- pTNM

Postneoadjuvant Therapy – Time Frame

Postneoadjuvant therapy clinical
- Between completion of neoadjuvant therapy and surgery

- From
  - After completion of last systemic and/or radiation therapy treatment
  - Before definitive surgical resection

Postneoadjuvant therapy pathologic
- After both neoadjuvant therapy and surgery

- From
  - Operative findings during surgical resection
  - Including pathology report findings from surgical resection

Postneoadjuvant therapy – Information Included

Postneoadjuvant therapy clinical
- Physical exam
- Symptoms
- Imaging
- Lab tests
- Use clinical stage/pretreatment M category status

Postneoadjuvant therapy pathologic
- Operative findings
- Pathology report of resected specimen
- Use clinical stage/pretreatment M category status

- Neoadjuvant therapy includes
  - Radiation therapy
  - Systemic therapy: chemo, hormone, immuno

Postneoadjuvant Therapy – Purpose and Use

Postneoadjuvant therapy clinical
- Response to therapy assessment is prognostic
  - Compare to clinical stage to assess response
- Helps direct extent of surgery to be performed

- ycTNM

- Not collected by cancer registrars, no data fields

Postneoadjuvant therapy pathologic
- Response to therapy assessment is prognostic
  - Compare to clinical stage to assess response
- Helps direct subsequent systemic and/or radiation therapy

- ypTNM

Retreatment

Time Frame
- At time of retreatment for
  - Recurrence (must have a disease free interval) or
  - Disease progression

Information Included
- All clinical and pathologic information available at
  - Time of retreatment
  - Time of recurrence

Purpose and Use
- Select treatment and analyze recurrences
- Original stages assigned at initial Dx and Rx do NOT change
- rTNM
- Not collected by cancer registrars, no data fields

Autopsy

Time Frame
- At time of autopsy for
  - Previously undiagnosed cancer
  - Cancer not evident prior to death

Information Included
- All clinical and pathologic information obtained at
  - Time of death and
  - Postmortem examination

Purpose and Use
- Analysis of unsuspected cancers prior to death
  - Separate from cases where medical intervention was possible
- aTNM
- Not collected by cancer registrars, no data fields

General – All Classifications

- Microscopic confirmation
  - Required / should be confirmed for classification
  - Rare cases without microscopic confirmation
    - May be staged
    - May affect data analysis if truly not cancer
- ICD-O-3 codes identify cases pertaining to each chapter
  - International Classification of Diseases for Oncology, 3rd Edition
  - Topography codes to identify primary site
  - Histology code ranges to identify morphology (cell type)
- Recommend CAP cancer protocol usage for reporting

Stage Classification Based on Treatment

- Surgical Treatment
  - Clinical
  - Pathologic
- Systemic and/or Radiation ONLY
  - Clinical
- Neoadjuvant Therapy
  - Clinical
  - yclinical (after systemic/radiation but before surgery)
  - ypathologic (after systemic/radiation AND surgery)
  - Can NEVER do pathologic after neoadjuvant therapy
  - Registrars do not have data field to record yc

Lesson 9
T Category

T Criteria

- T criteria based on size and/or direct extension
- Criteria specific to
  - Anatomy of primary site
    - Homogeneous or heterogeneous (different tissue layers)
  - Biologic behavior of cancers for that site
    - How it grows and spreads, involvement that changes the prognosis
- Criteria for clinical classification cT
  - Physical exam, imaging, endoscopy, biopsy, surgical exploration
- Criteria for pathologic classification pT
  - Resection of tumor, may require resection of organ/structure

Tumor Size

- Tumor size recorded and staged using whole millimeters
- For size reported
  - In smaller units such as tenth or hundredth of mm
  - Round to nearest whole millimeter for assigning stage
  - Round 1-4 down, 5-9 up
- Examples:
  - Breast tumor 1.2mm grouped with 1mm, T1mi ≤1mm
  - Breast tumor 1.7mm grouped with 2mm, T1a >1mm to <5mm
- Rationale
  - Staging groups similar cases together

Multiple Tumor Pieces

- pT generally based on single resected specimen
- Tumor resected in multiple pieces
  - Reasonable estimate of size and extension
  - Guidance from disease specific rules
- Estimate may require
  - Orientation by surgeon
  - Comparison to imaging
  - Pathologist working with surgeon and radiologist to determine T
- Registrar
  - Cannot add tumor pieces to assign size and/or extension
  - Does not know orientation of tumor pieces

Uncertain Information

- Define uncertain information
  - Ambiguity about involvement
  - Details to meet staging criteria are unclear
  - Choosing between two categories
- Correct T category for uncertain information
  - Lower or less advanced category used
- Define unknown information
  - Unknown to the physician
  - Not used to describe situation where registrar does not have access to the information
- Correct T category for unknown information
  - Assign TX
  - Never assign lowest category

Lesson 10
N Category

N Criteria

- N criteria based on number and/or location
  - Regional nodes ONLY
- Criteria specific to
  - Behavior of cancers for that primary site
  - Prognosis related to
    - Nodal drainage patterns, first nodal chains to drain that site
    - Amount of involvement, number of nodes
- Criteria for clinical classification cN
  - Physical exam, imaging, diagnostic biopsy
- Criteria for pathologic classification pN
  - Resection of node or nodes WITH pT (surgical resection primary)

Node Size Criteria

- N category size criteria general rule
  - Use size of metastasis in lymph node
  - If size of mets not available, size of node is reasonable substitute
  - Chapter specific rules override general rules
- Different size criteria by site chapter
  - Size of node
  - Size of metastasis in node
- Reason for criteria difference
  - Based on the anatomic site and biology
  - Head & Neck example
    - Size of the mass is prognostic
    - Even if mass is made of up multiple matted nodes

One Node and Minimum Number

- Pathologic N category criteria (pN)
  - At least ONE node must be microscopically examined
  - Use all nodes to assign N category
    - Palpated or imaged nodes are included in pN
    - Not just those microscopically examined
- Minimum number
  - Minimum number and location of nodes to be examined
    - Described in site chapters as appropriate
    - Detail common medical practice
  - pN category assignment
    - Based on information available
    - Assigned even if minimum number or location criteria not met

Considered N Involvement

- Direct extension of primary tumor into regional node
  - Considered as nodal involvement
  - Count as a positive node
  - Assign N category, not T category
- Tumor nodule with smooth contour in regional node area
  - Tumor replaced structures of lymph node
  - Still retains smooth contour of lymph node capsule
  - Considered as nodal involvement
  - Count as a positive node
  - Assign N category

Node Biopsy or Sentinel Nodes - cN

- cN assigned in clinical staging classification based on
  - Excision of nodes during diagnostic workup
    - Excision of a single node
    - Excision of sentinel nodes
  - No surgical resection of primary site meeting pT criteria
- Clinical staging = diagnostic workup
  - Pathologic exam of nodes is cN
- Pathologic staging = diagnostic workup and surgical Rx
  - Surgical resection of primary site pT
  - If no resection of nodes during surgery
  - Diagnostic workup (clinical staging) information is used
    - Excision of single node or sentinel nodes used to assign pN

pN in Conjunction with pT

- pN assigned in pathologic staging classification based on
  - Excision of nodes in conjunction with surgical Rx
  - Surgical resection of primary site meeting pT criteria
- Any microscopic exam of nodes is pN
  - When pathologic T (pT) is available
- pN exception
  - Excision of nodes is pN when
  - No resection of primary site
  - Due to unknown primary, assigned T0 (no evidence of primary tumor)

Uncertain Information

- Define uncertain information
  - Ambiguity about involvement
  - Details to meet staging criteria are unclear
  - Choosing between two categories
- Correct N category for uncertain information
  - Lower or less advanced category used
- Define unknown information
  - Unknown to the physician
  - Not used to describe situation where registrar does not have access to the information
- Correct N category for unknown information
  - Assign NX
  - Never assign lowest category

Lesson 11
M Category

M Assessment

- Different rules for M category
  - Defined by method of assessment
  - Not by time frame (diagnostic vs. surgery) like T and N
- Rationale
  - Critical to know assessment to analyze outcomes
  - Clinical judgment vs. proven microscopically
- Clinical Classification – valid M categories
  - cT; cN; cM0, cM1, pM1
- Pathologic Classification – valid M categories
  - pT; pN; cM0, cM1, pM1

cM Requirements

- cM0 only requires history and physical exam (H&P)
  - Does not mean registrar has to find H&P report in med record
  - Means physician performed physical exam on patient
- No symptoms or signs of metastasis is cM0
- Imaging is not necessary to assign cM0
- Infer status as cM0 unless known clinical M1 (cM1)
- Optimal extent of testing (although none is required)
  - Understand workup ordered based on T, N, and other results
  - NCCN Guidelines
  - American College of Radiology Appropriateness Criteria
- cM1
  - Clinical evidence of metastasis by physical exam
  - Imaging showing evidence of metastasis
  - Invasive procedures including exploratory surgery, without bx

pM Requirements

- pM1 requires positive biopsy of metastatic site
  - Biopsy shows presence of cancer in metastatic site
- Negative biopsy of suspected metastatic site is cM0
  - Biopsy shows absence of cancer in metastatic site
  - Assign cM0
  - Do NOT assign pM0
- pM0
  - NOT a valid category
  - May NOT be assigned
  - Undefined concept
    - Would require microscopic exam of all tissues in the body
    - Even autopsy does not sample every single piece of tissue

Uncertain Information

- Define uncertain information
  - Ambiguity about involvement
  - Details to meet staging criteria are unclear
  - Choosing between two categories
- Correct M category for uncertain information
  - Lower or less advanced category used
- Define unknown information
  - Physician must know M status
  - Not used to describe situation where registrar does not have access to the information
- No M category for unknown information
  - Unknown is NOT valid for M
  - Never assign lowest category for unknown

MX Not Valid

- MX
  - NOT a valid category
  - May NOT be assigned
  - Pathologist may NOT use MX
    - Leaves M blank if no metastatic tissue examined (not applicable)
    - Leaves M blank if metastatic tissue examined does not show cancer
    - Pathologist can only assign pM1 - tissue examined showed cancer
  - New to 7th edition
- M status critical
  - M status changes stage group
  - M status drastically changes patient care and treatment plan

Lesson 12
Stage Group

Group Assignment

- Group numbers correlate with worsening prognosis
  - Stage 0
    - Carcinoma in situ and melanoma in situ
  - Stage I
    - Tumor confined to primary site with better prognosis
  - Stages II and III
    - Increasing local and regional nodal involvement
  - Stage IV
    - Distant metastatic disease
- Groups expand into subsets for more refined prognosis
  - Stage II becomes IIA and IIB

Define Separate Groups

- Must define separate stage groups for each classification
  - Each are different
  - Have different purposes
- Documenting stage in medical health care record
  - Critical to document clinical and pathologic
  - Postneoadjuvant therapy (yp) may replace pathologic
  - If applicable, retreatment
- Once assigned, stage is NOT changed
  - Assigned based on appropriate timing and rules
  - Not changed based on information after appropriate timing
  - Not changed based on subsequent stage classifications

Similar Prognosis

- Cases with similar prognosis are grouped together
- Clinical stage groups based on
  - cT cN c/pM
- Pathologic stage groups based on
  - pT pN c/pM
- Disease specific groups of T, N, and M are defined
  - In each chapter
  - Unique for that site or disease

Use of TX and NX

- Minimize use of TX and NX
- May be assigned for legitimate situations
  - Evaluation of tumor necessary to assign T category not done
  - Evaluation of nodes necessary to assign N category not done
- Use of X may render case unstageable
- Stage only assigned if other categories determine stage
  - Belongs in one and only one stage regardless of unknown category
- Cases without stage omitted from comparison analyses

Additional Non-anatomic Factors in Group

- "Anatomic Stage/Prognostic Groups" is proper name
  - Commonly referred to as "stage groups"
  - Due to inclusion of non-anatomic factors as categories
- Certain stage groups require non-anatomic factors
  - These factors are a category
  - Included in the stage group tables
- If factor category information is not available or uncertain
  - Assign X for factor category, or
  - Assign lowest category (best prognosis) of factor category

Uncertain Information

- Define uncertain information
  - Ambiguity about involvement
  - Details to meet stage group criteria are unclear
  - Choosing between two stage groups
- Correct stage group for uncertain information
  - Lower or less advanced group used
- Define unknown information
  - Unknown to the physician
  - Not used to describe situation where registrar does not have access to the information
- Correct stage group for unknown information
  - Do not assign a group
  - Never assign lowest group

Lesson 13
Link to AJCC Staging Curriculum
"Staging for the Multidisciplinary Health Care Team"

Link to Additional Material

- AJCC Staging Curriculum
  - Series of staging presentations for different audiences
- Staging for the Multidisciplinary Health Care Team
  - Presentation designated for interns, residents, nurses, and other allied health personnel

STAGING FOR THE MULTIDISCIPLINARY HEALTH CARE TEAM

Summary

Summary

- Articulate and recognize AJCC rules and guidelines
- Apply AJCC principles accurately
  - Classifications
  - T, N, and M categories
  - Stage group
- Illustrate critical thinking skills in applying AJCC criteria
- Validate lessons
  - Additional materials
  - Webinar and quiz

Thank you

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