Overview

• Highlights of disease site chapter
• Uniqueness, differences and exceptions based on
  – Anatomy
  – Diagnostic workup
  – Treatment
  – Outcomes
• Cautions and reminders for staging
Learning Objectives

- Recognize differences based on disease site
- Examine criteria for assigning stage
- Analyze effect of uniqueness on staging
- Employ critical thinking in using physician documentation
- Utilize appropriate guidelines to gain knowledge
- Identify resources for AJCC staging

Stage Classifications

- Pathologic – p
- Clinical – c
- Date of Diagnosis
- Diagnostics Workup - phy exam, imaging, bx
- Surgical Treatment
- Pathology Report
- Systemic or Radiation Therapy
- Evaluation by imaging & physical exam
- Surgical Treatment
- Pathology Report
- Posttherapy yc
- Posttherapy yp

Anatomy Affecting Stage
Colorectum Anatomy

- Rectosigmoid junction (C79.3)
- Rectum (C20.9)

Colorectum Microscopic Anatomy

- Critical to understand tissue layers of colorectum

- Mucosa
- Lamina propria
- Muscularis mucosae
- Submucosa
- Submucosa propria
- Subserosa
- Tenia

Colorectum Anatomy

- Transverse colon (C18.4)
- Hepatic flexure (C18.3)
- Splenic flexure (C18.2)
- Descending colon (C18.1)
- Sigmoid colon (C18.0)

Colorectum Regional Nodes

- Regional nodes for colorectum

  - Regional nodes are specific to
    - Colon segment
    - Rectosigmoid
    - Rectum

  - Regional nodes named for arterial blood supply

  - Reference AJCC 7th edition Colon and Rectum chapter

Classification Issues
Clinical and Pathologic Staging

• Clinical staging
  – Colonoscopy usually not sufficient to assign clinical stage
  – May be assigned with imaging information
  – Incidental findings at surgical resection not clinically staged

• Pathologic staging
  – Use clinical stage information together with
  – Operative findings and
  – Resection of tumor

Posttherapy Staging

• Neoadjuvant therapy is often used for rectal cases

• Pathologic staging – rectum
  – First treatment must be neoadjuvant
  – All information from clinical staging with
  – Operative findings and
  – Resection of tumor

Assigning T, N, M, Stage Group
T Category

• TX is correctly assigned for many cases
  – Colonoscopy does not provide tissue layer involvement

• Potential direct involvement of other organs or structures
  – ctT4b: imaging shows adherent to other structures
  – pT4b: tumor found in adhesions on microscopic exam
  – pT1-4a: tumor not microscopically found in adhesions
  • Assign pT category based on microscopic anatomical depth of invasion

T Category

• Operative findings are part of pathologic stage
  – Surgeon sees T4b involvement but does not biopsy
  – Pathologist reports T3 since based on specimen received
  – Correct T category assignment is T4b

• Incidental finding at time of emergency surgery
  – No clinical stage may be assigned
  – All T, N, M categories are blank
  – Stage group may be coded as 99 for cancer registries

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N Category

- Tumor deposits
  - N1c when regional nodes are not involved
  - Not part of N category if regional nodes are involved

- Clinical N
  - Must estimate number of nodes on imaging
  - Physician judgment

M Category

- M1a – one organ or site
  - Includes paired organs such as lung and ovary

- M1b – more than one organ or site, or peritoneum
  - If only one site proven microscopically, still assign pM1b
  - Important to indicate there is microscopic evidence
M Category

Distant Metastasis (M)

- M0: No distant metastasis
- M1: Distant metastasis
- M1a: Metastasis confined to one organ or site (e.g., liver, lung, ovary, nonregional node)
- M1b: Metastasis in more than one organ/site or the peritoneum

AJCC Staging Rules

- Standard AJCC staging rules apply if no exceptions noted

- AJCC Curriculum for Registrars
  - Utilize this resource for staging rules
  - Slides available for download
  - Recordings available to watch at any time

- Refer to AJCC website for more information and education

Case Scenarios
Case #1 – Diagnostic Workup

- History/Chief Complaint
  - 54-year-old female with iron deficiency anemia

- Physical Exam
  - Abdomen: Flat, soft, and non-tender with suggestion of mass in right lower quadrant when examined in supine position

- Procedure

- Pathology Report
  - Moderately differentiated adenocarcinoma, colonoscopy biopsy.

Case #1 – Clinical Staging

- Physical exam
  - Suggestion of mass does not provide staging information

- Procedure
  - Description of tumor length and involving 1/3 of lumen circumference does not play a role in assigning stage

- Pathology report
  - Confirms cancer but does not provide staging information

Case #1 – Clinical Staging Answer

- cTX
  - No information in diagnostic workup provides info for T category

- cN0
  - Physician judgment may be used
    - Probability of nodal involvement based on primary lesion seen
    - Imaging ordered as deemed necessary

- cM0
  - No signs or symptoms of mets

- Stage unknown, cannot be assigned
Case #1 – Treatment

- **History/Chief Complaint**
  - 54-year-old female underwent a colonoscopy where fungating, non-obstructing large mass found at ileocecal valve and involved approximately ½ of lumen. Biopsied and demonstrated a moderately differentiated adenocarcinoma.

- **Operative Report**
  - Right hemicolectomy

- **Pathology Report**
  - Moderately differentiated adenocarcinoma with prominent mucin production extending through muscularis propria to extensively involve pericolic fat, right hemicolectomy. All twenty lymph nodes are negative; metastatic tumor deposits in adjacent mesentery.

Case #1 – Pathologic Staging

- **Surgery**
  - Patient had right hemicolectomy

- **Clinical staging information**
  - cTX cN0 cM0

- **Operative report**
  - No significant findings

- **Pathology report**
  - Extends through muscularis propria
  - Extensively involves pericolic fat
  - Lymph nodes are negative
  - Tumor deposits in adjacent mesentery

Case #1 – Pathologic Staging Answer

- **pT3**
  - Involvement of pericolic tissue

- **pN1c**
  - Tumor deposits in mesentry without involvement of regional nodes

- **cM0**
  - No signs or symptoms of mets

- **Stage IIIB**
Case #2 – Diagnostic Workup

- History/Chief Complaint
  - Nausea, vomiting, abdominal pain, abdominal distension with history of rectal bleeding
  - CT scan a week ago shows stricture of distal descending colon and proximal sigmoid colon

- Physical Exam
  - Distended abdomen, tender in the RUQ, impression is large bowel obstruction

- Imaging
  - CT abd/pelvis: complete obstruction sigmoid colon with narrowed area and dilated colon

Case #2 – Clinical Staging

- No diagnosis of cancer
- Patient does not qualify for clinical staging

Case #2 – Clinical Staging Answer

- No T, N, M, or stage group may be assigned
- All categories left blank – does not qualify for staging
- Stage group may be coded as 99 for cancer registries
Case #2 – Treatment

- History/Chief Complaint
  - Colon obstruction needing immediate surgery

- Operative Report
  - Sigmoid colectomy

- Pathology Report
  - Microscopic: circumferential 4.1 x 3 cm, tan-red, ulcerating lesion
    3.5 cm from one margin, 11.5 cm from opposite margin, and 3.3 cm
    from radial resection margin
  - Grossly invades into but not through muscularis propria
  - 16 lymph nodes identified within pericolonic fat
  - Final diagnosis: partial resection sigmoid colon – moderately
    differentiated adenocarcinoma, metastases to 2/16 regional nodes
    and lymphovascular invasion.

Case #2 – Pathologic Staging

- Surgery
  - Patient had surgical resection qualifying for pathologic staging

- Clinical staging information
  - No clinical stage

- Operative report
  - No significant findings

- Pathology report
  - Invades into muscularis propria
  - Does not invade through muscularis propria
  - Margin status does not play a role in staging
  - Involvement of regional nodes
  - Lymphovascular invasion does not play a role in staging

Case #2 – Pathologic Staging Answer

- pT2
  - Invades into but not through muscularis propria

- pN1b
  - Involvement of two regional nodes

- cM0
  - No signs or symptoms of mets

- Stage IIIA
Information and Questions on AJCC Staging

AJCC Web site

- https://cancerstaging.org
- Cancer Staging Education Registrar menu includes
  - Timing is Everything – stage classification timeframe graphic
  - Presentations
    - Self-study or group lecture materials
    - Registrar’s Guide to Chapter 1, AJCC Seventh Edition
    - Explaining Blanks and X, Ambiguous Terminology and Support for Staging
    - AJCC T, N, and M Category Options for Registry Data Items in 2016
  - AJCC Curriculum for Registrars
    - 4 free self-study modules of increasing difficulty on staging rules
      - Each module consists of 7 lessons, including recorded webinar with quizzes

AJCC Web site

- https://cancerstaging.org
- Cancer Staging Education Physician menu includes
  - Articles
    - 18 articles on AJCC staging in various medical journals
  - Webinars
    - 14 free webinars on staging rules and some disease sites
- Cancer Staging Education General menu includes
  - Staging Moments
    - 15 case-based presentations in cancer conference format to promote accurate staging with answers and rationales
Summary

- Recognize differences based on disease site
  - Examine criteria for assigning stage
  - Effect of uniqueness of anatomy, workup, treatment

- Employ critical thinking in using physician documentation
  - Understanding current standard medical practice
  - Interpretation of available information

- Utilize guidelines available to registrars to gain knowledge

- Identify resources for AJCC staging
  - Information and guidance
  - Obtain answers to questions to learn staging
    - Understand rationale to apply to future cases
    - Not just an answer for today’s case

Thank you

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