Collecting Cancer Data: Colon

NAACCR 2016-2017 Webinar Series

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Q&A

• Please submit all questions concerning webinar content through the Q&A panel.

• Reminder:
  – If you have participants watching this webinar at your site, please collect their names and emails.
  – We will be distributing a Q&A document in about one week. This document will fully answer questions asked during the webinar and will contain any corrections that we may discover after the webinar.
**Fabulous Prizes**

- Candy Box
- Heart of Roses
- Sports Car
- Football and Chocolate

**Agenda**

- Overview
  - Anatomy
  - MP/H
- Treatment
- Quiz
- Staging
- Quiz
- Case Scenarios
Overview

Anatomy

- Muscular tube about 5 feet long
- Absorbs water and salt from food
- Wall of colon consists of several layers

SEER Training Modules, Colorectal Cancer. U. S. National Institutes of Health, National Cancer Institute. 26 Jan 2017
https://training.seer.cancer.gov/colorectal/anatomy/figure/figure1.html
**Anatomy**

- Cecum (C18.0)
- Appendix (C18.1)
- Ascending (C18.2)
- Hepatic Flexure (C18.3)
- Transverse (C18.4)
- Splenic Flexure (C18.5)
- Descending (C18.6)
- Sigmoid (C18.7)
- Rectum (C20.9)

**Colon Wall Layers**

- Mucosa
  - Mucous lining of the inside of the colon
- Submucosa
  - Connective tissue that hold blood vessels, lymphatics, and nerve vessels
- Muscularis propria
  - Consists of two muscular layers
- Subserosa
  - Include fat and flesh between the muscularis and the serosa
- Serosa
  - Visceral peritoneum, single cell layer on outside of colon
Mesentery

- Mesentery proper – small intestine
  - (jejunum and ileum)
- Transverse mesocolon:
  - transverse colon
- Sigmoid mesocolon
  - sigmoid colon
- Mesoappendix
  - appendix

Colon Blood Supply

http://teachmeanatomy.info/abdomen/gi-tract/colon/
Regional Lymph Nodes

- Refer to the AJCC Staging Manual for a list of regional lymph nodes.

Common Metastatic Sites

- Liver
- Lungs
- Bone
- Distant Lymph Nodes
- Seeding
Pre-Cancerous Conditions

- Adenomatous polyps (adenomas)
- Hyperplastic polyps
- Dysplasia

Types of Polyps

- Pedunculated polyp
  - Outgrowths of the colon mucosa having a stem-like attachment.
- Sessile polyp
  - Broad based outgrowths with a flat appearance
Cancer in Colon and Rectum

- Adenocarcinoma
- Carcinoid Tumors
- Gastrointestinal Stromal Tumors (GISTs)
- Lymphomas
- Sarcomas

Multiple Primary and Histology Rules

- Exophytic and polypoid not synonymous with a polyp
- Rectum and Rectosigmoid are covered by The Other Site rules
- Equivalent or Equal Terms
  - Invasion through colon wall, extension through colon wall, transmural
  - Mucin producing, mucin secreting
  - Mucinous, colloid
  - Polyp, adenoma
  - Serosa, visceral peritoneum
Multiple Primary and Histology Rules

- Most Invasive
  - Mucosa (surface epithelium, lamina propria, basement membrane)
  - Submucosa
  - Muscularis propra
  - Subserosa
  - Retroperitoneal fat
  - Mesenteric fat
  - Serosa

Multiple Primary Rules

- M3: Adenocarcinoma in adenomatous polyposis coli (familial polyposis) with one or more malignant polyps = single primary

- M4 Different at second (Cxxx), third (Cxxx) or fourth (C18x) character = multiple primaries

- M5 More than 1 year apart = multiple primaries
Multiple Primary Rules

• M3: Adenocarcinoma in adenomatous polyposis coli (familial polyposis) with one or more malignant polps = single primary

• M4 Different at second (Cxxx), third (Cxxx) or fourth (C18x) character = multiple primaries

• M5 More than 1 year apart = multiple primaries

Multiple Primary Rules

• M7: Frank adenocarcinoma (in situ or invasive) and adenocarcinoma in a polyp (in situ or invasive) = single primary

• M10 Histology codes different at first (xxxx), second (xxxx) or third (xxxx) character = multiple primaries
**Pop Quiz 1**

01/15/17 A patient presents for colonoscopy where biopsy was done on tumor found in splenic flexure (C18.5). Pathology showed adenocarcinoma. The patient has a previous primary of adenocarcinoma of the ascending colon (C18.2) that was diagnosed 12/15/2015.

- How many primaries are there
- Which rule did you use?

**Histology Coding Rules**

- H3: Code 8140 histology is intestinal type adenocarcinoma or adenocarcinoma, intestinal type

- H4: Code 8210, 8261 or 8263 when final diagnosis is
  - Adenocarcinoma in polyp
  - Adenocarcinoma and residual polyp or polyp architecture is recorded in other parts of the pathology report
  - Adenocarcinoma and there is reference to a residual or pre-existing polyp
  - Mucinous/colloid or signet ring cell adenocarcinoma in a polyp
  - Documentation that the patient had a polypectomy
Histology Coding Rules

- **H5**: Code 8480 (mucinous/colloid adenocarcinoma) or 8490 (signet ring cell carcinoma) when final diagnosis
  - Mucinous/colloid or signet ring cell carcinoma
  - Adenocarcinoma, nos and microscopic description documents 50% or more of the tumor is mucinous/colloid or signet ring cell
- **H6**: Code 8140 when the final diagnosis is adenocarcinoma
  - Microscopic states less than 50% of tumor is mucinous/colloid or signet ring cell carcinoma
  - Percentage of mucinous/colloid or signet ring cell is unknown
- **H7**: Code 8255 when combination of mucinous/colloid and signet ring cell carcinoma

Histology Coding Rules

- **H8**: Code 8240 when diagnosis is neuroendocrine carcinoma and carcinoid tumor
- **H9**: Code 8244 when diagnosis is adenocarcinoma and carcinoid tumor
- **H10**: Code 8245 when diagnosis is exactly “adenocarcinoid”
**Pop Quiz 2**

01/02/16 A patient was seen for a routine colonoscopy. A polyp was seen in the hepatic flexure and a polypectomy was done. The pathology came back as invasive adenocarcinoma.

• What is the histology?

• Which rule did you use?

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**Pop Quiz 3**

12/21/16 A patient presented for partial colectomy. Pathology revealed a 2.0 cm tumor in the ascending colon, adenocarcinoma. The microscopic description stated that 65% of the tumor was mucinous.

• What is the histology?

• Which rule did you use?
MPH Rules - Rectum and Rectosigmoid

- Use the Other Sites Rules
- Rule M11: Primary site differs at second or third character = multiple primaries (Cxx.x or Cxx.x)
- Rules H5, H16, H30 use of combination codes (Table 2)
- No specific rules for Mucinous/colloid or Signet Ring cell cancers

Questions?
Surgery - Colon

- Polypectomy
- Colectomy
  - Hemicolecotomy
  - Partial colectomy
  - Segmental resection
  - Total colectomy
**Radiation Therapy - Colon**

- Usually after surgery, for tumors that have attached to an internal organ or lining of abdomen.
- For patients not healthy enough for surgery
- For palliation in patients with advanced cancer causing blockage, bleeding or pain
- Mets to bone or brain

**Chemotherapy - Colon**

- Adjuvant Chemo – after surgery
- Neoadjuvant chemo – to try to shrink tumor prior to surgery
- Most common drugs
  - 5-FU
  - Capecitabine
  - Irinotecan
  - Oxaliplatin
  - Trifluridine and Tipiracil
**Targeted Therapies**

- Vascular Endothelial growth factor (VEGF)
  - Avastin
  - Cyramza
  - Zaltrap
- Epidermal Growth Factor Receptor (EGFR)
  - Erbitux
  - Vectibix
- Kinase Inhibitors
  - Stivarga

**Rectal Cancers**

- Neoadjuvant Chemotherapy
- Radiation prior to surgery
- Surgery
  - Low anterior resection (LAR)
  - Hartmann’s procedure
  - Anterior/posterior resection (APR)
  - Total proctectomy
    - Abdominoperineal resection (APR)
**Anatomic Structures**

- Page 64 of the SEER Summary Staging Manual 2000
**Layers of the Mucosa**

- Lamina propria
- Muscularis
- Submucosa
- Mucosa
- Epithelium
- Basement Membrane

**Localized (1)**

- Invasive tumor confined to:
  - Intramucosal NOS
  - Lamina propria
  - Mucosa NOS
  - Muscularis mucosae
  - Muscularis propria
  - Perimuscular tissue invaded
  - Polyp NOS
  - Submucosa
  - Subserosal tissue/fat
  - Transmural NOS
  - Wall NOS
Regional by Direct Extension (2)

- All colon sites
  - Invasion of/through serosa
  - Extension into/through:
    - Abdominal wall
    - Adjacent tissue NOS
    - Small intestine
    - Pericolic fat
- By colon subsite

Regional to Lymph Nodes (3)

- All colon subsites:
  - Colic NOS,
  - Epicolic
  - Mesenteric NOS
  - Paracolic/pericolic
  - Regional lymph nodes NOS
- By colon subsite
**Distant Metastasis (7)**

- Distant lymph nodes
  - All colon subsites:
    - Para-aortic, retroperitoneal, superior mesenteric, other distant
- Further contiguous extension
  - All colon subsites:
    - Adrenal, bladder, diaphragm, fallopian tube, fistula to skin, gallbladder, other segment of colon via serosa, ovary, uterus

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**Pop Quiz 4**

- A patient had a segmental resection of the ascending colon. The pathology showed the primary tumor extended into the pericolic fat. 12 lymph nodes were removed and 7 were found to have metastatic disease. No further disease was identified.
- What Summary Stage should be assigned?
  - 1 Localized
  - 2 Regional by direct extension
  - 3 Regional lymph nodes
  - 4 Regional by both direct extension and regional lymph nodes
  - 5 Regional NOS
  - 7 Distant metastasis.
Questions?

TNM Staging

Questions?
**Rules for Classification**

- Clinical staging
  - Based on medical history, physical exam, sigmoidoscopy, and colonoscopy with biopsy
- Pathologic staging
  - Based on surgical exploration of the abdomen, cancer-directed surgical resection, and pathologic exam of resected specimen

**Pop Quiz 5**

- A patient had a colonoscopy with biopsy. The biopsy confirmed adenocarcinoma of the sigmoid colon. No further staging work-up was done. The patient went on to have a segmental resection.
  - Have we met the rules for classification for clinical stage?
**Pop Quiz 6**

- A patient had a colonoscopy and biopsy. The biopsy confirmed adenocarcinoma of the descending colon. No further staging work-up was done.
- The patient returned for a segmental resection. During the procedure the surgeon found direct extension from the primary tumor into the left kidney (T4b).
- The surgeon decided not to proceed with the surgical procedure. The patient was referred to a medical oncologist for palliative chemotherapy.
  - Can the information from the surgical exploration be used for the clinical stage?
  - Can the information from the surgical exploration be used for the pathologic stage?

**Pop Quiz 7**

- A patient had a colonoscopy and biopsy. The biopsy confirmed adenocarcinoma of the descending colon. No further staging work-up was done.
- The patient returned for a segmental resection. During the procedure the surgeon found direct extension from the primary tumor into the left kidney (T4b).
- The surgeon proceeded with the surgical procedure. Pathology confirmed direct extension into the kidney.
  - Can the information from the surgical exploration be used for the clinical stage?
  - Can the information from the surgical exploration be used for the pathologic stage?
AJCC Stage 0...more than in situ!

- Lamina propria
- Muscularis
- Submucosa
- Mucosa
- Basement Membrane
- Epithelium
- Abnormal cells

Pop Quiz 8

- A patient present for a colonoscopy with biopsy. The biopsy is positive for adenocarcinoma.
- The patient went on to have a segmental resection.
- Pathology showed adenocarcinoma that invaded into, but not through the lamina propria. No lymph nodes were removed.

Pg. 143-155

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**Confined to the Colon Wall**

- Invasion into, but not through the submucosa
- Invasion into, but not through the muscularis

**Through the Musculature**

- Invasion through the muscularis
  - No involvement of the serosa
  - No involvement of adjacent organs or structures
- Invasion into the serosa with no involvement of other sites and structures
**Circumferential Resection Margin**

- Important for parts of the colon not covered by serosa (non-peritonealized)
  - Includes the adventitial soft tissue closest to the deepest penetration of the tumor.

**Serosa and Beyond**

- Involvement of the serosa (visceral peritoneum)
- Involvement of organs or structures
Pop Quiz 9

• A patient had a colonoscopy and biopsy. The biopsy confirmed adenocarcinoma of the descending colon. No further staging work-up was done.
• The patient returned for a segmental resection. During the procedure the surgeon found direct extension from the primary tumor into the abdominal wall.
• The surgeon proceeded with the surgical procedure. Pathology showed that the tumor extended into the peritoneum, but the adhesions to the abdominal wall did not have any metastatic disease.
  – What is the cT?
  – What is the pT?
Does the Number of Lymph Nodes Involved Impact the Stage Group?

- Must be able to determine if 1-3 nodes were involved or if 4 or more nodes involved.
  - If you cannot differentiate between 1-3 or 4 or more, then NX
  - If you know more than 4 lymph nodes are involved but you cannot differentiate between 4-6 and 7 or more, N value stage may be 99.

See stage table on page 155

Pop Quiz 10

- A patient presents with a recent history of anemia.
  - A colonoscopy is done and shows adenocarcinoma in the transverse colon.
  - A CT shows the tumor as perforated the colon wall and extended in the surrounding tissue, but does not appear to involve any surrounding structures or organs.
  - Also, noted are numerous malignant appearing regional lymph nodes.
  - No indication of distant mets.

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**Pop Quiz (cont)**

- The patient went on to have a hemicolectomy.
  - The pathology showed the primary tumor invaded through the colon wall, the visceral peritoneum and into surrounding tissue.
  - 26 lymph nodes were removed and 13 were found to be malignant.

**Tumor Deposits (TD)**

- Deposits of tumor away from the primary tumor, but within the regional lymphatic drainage area that do not show any evidence of lymph node tissue.
  - TD’s do not change the T value.
  - If no positive lymph nodes, code TD as N1c.
  - If TD’s are present and lymph nodes found to be positive, code N based on number of positive lymph nodes.
Pop Quiz 11

- A patient had a segmental resection. The pathology report showed 5 tumor deposits in the pericolic tissue adjacent to the primary tumor and 6 lymph nodes with metastasis.
  - What is the pN data item?

Distant Mets

- How many sites of distant metastasis are involved?
Pop Quiz 12

• A patient is found have a mass in the liver.
  – The liver is biopsied and pathology shows adenocarcinoma most likely from a colon primary.
  – Imaging reveals a second metastatic lesion in the lung and a primary tumor in the ascending colon.
  – The patient is referred to hospice. No further work-up or treatment is done.

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Neoadjuvant Treatment

• Common for rectal primaries T3 or higher.
• Often chemotherapy and radiation
**Pop Quiz 13**

- A patient was found to have a large palpable rectal tumor.
- Biopsy confirmed adenocarcinoma.
- Extensive clinical work-up showed the tumor invading through the muscle wall.
- Three enlarged malignant appearing perirectal lymph nodes were identified.
- No indication of any additional metastasis.

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**Pop Quiz (cont) 13**

- The patient received neoadjuvant chemo/radiation.
- Following completion of radiation the patient had a transabdominal resections.
  - Primary tumor was confined to the submucosa
  - 32 lymph nodes were all negative for metastasis

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Stage Groups

- Stage 1-2
  - No lymph node involvement
  - No distant metastasis
- Stage 3
  - Lymph nodes are involved
  - No distant metastasis
- Stage 4
  - Distant metastasis

Questions?

SSF’s
SSF1: Carcinoembryonic Antigen (CEA)

- CEA
  - Is a protein molecule
  - Is a tumor marker for colorectal cancer
- SSF1
  - Record interpretation of highest CEA test result prior to treatment

SSF2: Clinical Assessment of Regional Lymph Nodes

- Record clinical lymph node involvement based on diagnostic workup
  - Physical exam, imaging, diagnostic lymph node biopsy, exploratory surgery WITHOUT resection
  - Exclude endoscopy without ultrasound
- Use code 999 (unknown) if there is no diagnostic workup to assess regional node involvement
- Should reflect what was coded in cN data item
Patient had colonoscopy with polypectomy, adenocarcinoma in tubular adenoma. After the polypectomy, patient had abdominal/pelvic CT scan that documented no lymphadenopathy. No other treatment was given.

What is the code for SSF2?
   a. 000: Nodes not clinically evident; imaging of regional nodes performed and nodes not mentioned
   b. 999: Unknown

One or more satellite peritumoral nodules in pericolorectal adipose tissue without evidence of residual lymph node tissue.

Record exact number of tumor deposits in SSF4.

Assign code 000 (none) if resection of primary site is performed and no mention of tumor deposits.

Assign code 998 if no surgical resection of primary site
   - Polypectomy is not resection of primary site
Pop Quiz 15

• A patient has a segmental resection. The pathology report showed 5 tumor deposits in the pericolic tissue adjacent to the primary tumor and 6 lymph nodes with metastasis.
  – What is the pN data item

  – What is SSF 4?

SSF6: Circumferential Resection Margin (CRM)

• Is the measurement from deepest invasion of tumor to closest soft tissue margin
  – Radial margin, mesenteric resection margin
• Record to nearest tenth in mm exact measurement of CRM
• Assign code 998 if no surgical resection of primary site
  – Polypectomy is not resection of primary site
**Pop Quiz 16**

- Patient had hemicolecetomy for ascending colon adenocarcinoma. Resection margins were:
  - Radial margin, serosal aspect: 0.3 mm
  - Radial margin, mesocolic aspect: 1.5 mm
- What is the code for SSF6?
  a. 003
  b. 015
  c. 999

**SSF8: Perineural Invasion**

- Infiltration of nerves by tumor cells or spread of tumor along nerve pathway
  - Is a prognostic factor for colorectal cancer
  - Code presence or absence of perineural invasion in SSF8
- Assign code 000 (none) if histologic exam of primary site is performed and no mention of perineural invasion
• Is an oncogene that when mutated may turn a normal cell into a cancer cell
• Patients with mutated KRAS may not respond to anti-epidermal growth factor receptor drugs
• Record status of KRAS in SSF9
  – Abnormal (mutated) or Normal (wild type)
Coming Up…

- Abstracting and Coding Boot Camp: Cancer Case Scenarios
  – 3/2/2017

- Collecting Cancer Data: Lip and Oral Cavity
  – 4/13/2017

And Our Fabulous Prizes Go To…

[Images of various prizes]
CE Certificate Quiz Survey

• Phrase
  Circumferential
• Link

Thank You!

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