Colon Practice Case

DISCHARGE SUMMARY

August 1, 2007

Significant Procedures:
1. Upper endoscopy showed a large hiatal hernia but otherwise no peptic ulcer disease or bleeding source.
2. Colonoscopy, which showed no obvious lesion due to poor prep; the patient was re-scoped for colonoscopy and again results were difficult to interpret due to poor prep and large amounts of melena.
3. Right hemicolectomy with a surgical pathology report of poorly differentiated infiltrating adenocarcinoma of the cecum with extension to the pericolic fat, involvement of the ileocecal valve and terminal ileum with extension into the jejunum. There was metastatic adenocarcinoma involving 12 out of the 39 regional lymph nodes.

Final Diagnosis: Adenocarcinoma of right colon, multiple polyps right colon

SURGICAL PATHOLOGY REPORT

July 20, 2007

Specimen: Right hemicolectomy

Final Diagnosis:
Poorly differentiated infiltrating adenocarcinoma of the cecum, measuring 8 x 8 x 5.3 cm with extension into the pericolic fat, involvement of the ileocecal valve and terminal ileum and with extension into the jejunum. Tubular resection margins with no tumor involvement. Two adenomatous polyps and a single hyperplastic polyp are present in the resected specimen. Metastatic adenocarcinoma involving twelve (12) out of thirty-nine (39) regional lymph nodes. Pericolic lymph nodes showing granulomatous inflammation and focal necrosis.

Comment: Immunoperoxidase stain for synaptophysin and chromogranin are performed with positive results, while immunoperoxidase stain for neuron specific enolase is focally positive. These findings indicate probable neuroendocrine differentiation.

END Colon Practice Case

Colon Case 1

SURGICAL PATHOLOGY REPORT #1

October 23, 2007

Final Diagnosis:
A. Colon (mass), cecum, biopsy: Invasive well to moderately differentiated adenocarcinoma
B. Colon (polyp), descending, biopsy: Tubular adenoma
C. Colon (polyp), sigmoid, biopsy: Fragments of tubulovillous adenoma
D. Rectum (polyp), biopsy: Tubular adenoma

SURGICAL PATHOLOGY REPORT #2

October 24, 2007

Final Diagnosis:
Right Colectomy:
1. Adenocarcinoma (cecum), moderately differentiated, with extensive mesenteric lymphatic and vascular invasion, serosal and omental involvement, metastatic to 2 of 5 mesenteric lymph nodes.
2. Adenocarcinoma (ascending colon), moderately differentiated, with invasion limited to submucosa.
3. Tubular adenomas, sessile (ascending colon).
4. Absence of vermiform appendix, consistent with surgical absence.

Comments: The adenocarcinoma of the cecum is extensively invasive, showing extensive involvement of mesenteric lymphatics as well as microscopic and gross venous involvement. Extensive serosal involvement is also noted, and both the proximal and distal bowel resection margins exhibit serosal and /or vascular involvement. The exact gross size of the cecal carcinoma cannot be determined due to the extensive degree of mesenteric invasion. One of the small sessile polyps in the ascending colon is consistent with adenocarcinoma.

END Colon Case 1

Colon Case 2

OPERATIVE REPORT

February 14, 2007

Procedure: Colonoscopy and biopsy with tattoo placed next to masses

Impression: Two large lesions at the splenic flexure and the hepatic flexure, too large for endoscopic removal, with features of cancer including a deep pit in one and broad involvement of the wall with pleating in the other.

SURGICAL PATHOLOGY REPORT #1

February 14, 2007

Final Diagnosis:
A. Adenocarcinoma, biopsies of tumor designated splenic flexure.
B. Villous adenoma, biopsies of tumor designated hepatic flexure (see micro).
C. Benign lymphoid nodule, 2 mm polyp, rectum.

SURGICAL PATHOLOGY REPORT #2

February 28, 2007

Macroscopic Summary:
Specimen Type: Subtotal colectomy
Length: 90 cm.
Tumor Site: Hepatic flexure (polypoid) and splenic flexure (two tumors)
Tumor Configuration: Exophytic and infiltrative (two tumors)
Additional Microscopic Findings: Polyps (number): 1
Tumor Size: 0.3 cm (within the polyp) and 3.5 x 3.5 x 1.8 cm.

Final Diagnosis:
Hepatic flexure, colon: A large tubular adenoma with a focus of colonic adenocarcinoma invasive into the stalk of the polyp. Splenic flexure, colon: Moderately-differentiated invasive adenocarcinoma with signet ring cells, involving the entire thickness of the colonic wall. Clear margins of resection. A small tubular adenoma. Twenty regional lymph nodes without evidence of metastatic adenocarcinoma.

END Colon Case 2

Colon Case 3
Note: The 2003 case is in your data base

OPERATIVE REPORT

March 14, 2007

Postoperative Diagnosis: Recurrent colon carcinoma

Procedures: Laparotomy, division of adhesions, transverse colectomy

Findings: Exploration of the abdominal cavity demonstrated the anastomosis. There was a palpable mass at the old anastomosis that was located just to the right of the midline. Examination demonstrated no evidence of intraabdominal metastatic disease. The liver was carefully palpated and there was with no evidence of mass or other abnormality. There were dense adhesion around the gallbladder, liver, duodenum and stomach. The mass was felt to be located in the posterior portion of the anastomosis. The colon was examined and it was felt normal except for the mass at the anastomosis. The anterior portion of the anastomosis appeared completely normal and there was no evidence of significant old inflammation of this area.

ONCOLOGY CONSULTATION

March 16, 2007

Patient is an 83-year-old female who I saw for the first time back in June 2003. She had undergone a partial colectomy for ascending colon cancer. Following recovery we saw her and did not recommend any adjuvant chemotherapy. I have been seeing her approximately every three months since July of last year. She had a slightly elevated CEA level ranging between 3.5 and 4, so we arranged for her to have a followup colonoscopy. This was carried out in early March 2007 and unfortunately there was a mass located within an inch or so of her previous anastomosis which was biopsied and showed recurrent adenocarcinoma.

Assessment and Recommendations: The patient has a recurrent adenocarcinoma of the colon which is very near the previous anastomosis site. It is difficult to say whether this is a local recurrence of her previous cancer or a new malignancy arising in the same area of the colon. In any case, she has had a total resection and again all of the lymph nodes are negative. In light of her age, I do not feel that adjuvant chemotherapy is warranted.

END Colon Case 3

Colon Case 4

HISTORY AND PHYSICAL

September 28, 2007

This patient had a flexible sigmoidoscopy, endoscopic ultrasound and colonoscopy. Procedures demonstrated a sigmoid lesion at 20cm which was circumferential and extended into the muscularis mucosa. There was also a 1.5cm lesion at 45cm which was removed and another 1.5cm lesion at 30 cm which was not biopsied. He was found to have 23 polyps, 22 of which were removed.

SURGICAL PATHOLOGY REPORT

September 28, 2007

Final Diagnosis:
1. Colon, right cecal polyps, right colon polyps, transverse colon polyps, polyp at 45cm, A-D respectively, biopsies: Colonic mucosa with multiple tubular and tubulovillous adenomas
2. Colon, polyp at 45 cm, biopsies: Mucinous adenocarcinoma, arising in the setting of an overlying tubulovillous adenoma, invading at least into the submucosa.
3. Colon, left side polyps, 20-25 cm, biopsies: Invasive, well differentiated colorectal adenocarcinoma in one biopsy piece, in a background of numerous additional tubular adenomas. Depth of invasion of the carcinoma cannot be assessed.
4. Colon, mass at 20 cm, bopsy: Multiple fragments of invasive well-differentiated colorectal adenocarcinoma. Depth of invasion cannot be assessed.

END Colon Case 4

Colon Case 5

SURGICAL PATHOLOGY REPORT #1

May 27, 2007

Microscopic Description:
The lesion is morphologically consistent with an invasive adenocarcinoma of the colon. Some changes of benign polyp are also seen in this biopsy specimen.

Final Diagnosis colon biopsy: Adenocarcinoma. No muscle present; therefore, the presence of invasion cannot be confirmed.

SURGICAL PATHOLOGY REPORT #2

June 4, 2007

Final Diagnosis:
Colon, resection:
1. Tumor type(s): Colonic adenocarcinoma and carcinoid (see comment).
2. Mucinous component: Absent. Percentage of mucinous component: 0%.
3. Histologic grade (G2): Moderately differentiated.
4. Tumor location(s): Left colon.
5. Tumor size: 2.2 cm.
6. Extent of invasion: Tumor invades muscularis propria, but not through it.
7. Polyps: None.
8. Non-neoplastic bowel: Unremarkable.
9. Lymph node status/staging: Nine lymph nodes (0/9) negative for tumor. One cecal lymph node (1/1) positive for metastatic carcinoid tumor. (see comment).
10. Sentinel lymph node: N/A.

Comment:
Additional evaluation of gross specimen revealed a carcinoid tumor, measuring 2.2cm, in the vicinity of the appendiceal stump. Sections reveal connection to the cecal mucosa with extension into the underlying muscularis propria. There is extension beyond the muscularis propria into the surrounding pericolonic adipose tissue. A single lymph node (1/1) is positive for metastatic carcinoid tumor. This lymph node is found in the vicinity of the cecum.

END Colon Case 5

STOP
DO NOT PROCEED TO CASE 6 UNTIL INSTRUCTED

Colon Case 6

SURGICAL PATHOLOGY REPORT

September 6, 2007

Final Diagnosis:
A. Peritoneal implant: Adenocarcinoma
B. Omental nodule: Adenocarcinoma
C. Right colon including cecum and terminal ileum: invasive adenocarcinoma of cecum with the following features:

1. Tumor size: 6.5cm
2. Histopathologic grade: moderately differentiated, with mucinous features and signet ring features
3. Depth of invasion: Tumor penetrates muscularis externa and involves pericolic adipose tissue
4. Vascular/lymphatic invasion: Not identified
5. Margin status (Prox/Distal): Negative
6. Distance to nearest margin: 11.0cm (proximal margin)
7. Radial margin status: Not applicable
8. Other lesions present: Multiple hyperplastic polyps
9. Lymph node status: Metastatic carcinoma to 8 of 28 pericolic lymph nodes
10. Benign non-inflamed vermiform appendix with fibrous obliteration of lumen

D. Small bowel mesenteric implant: Adenocarcinoma

COMMENT: Although this tumor is moderately differentiated overall, there is extracellular mucin associated with the tumor, and also some signet ring tumor cells.

END Colon Case 6

Colon Case 7

SURGICAL PATHOLOGY REPORT #1

May 10, 2007

Specimen:

1. Polyps at 3 and 5 fold - 8 mm and 5 mm distal ileocecal valve
2. Polyp hepatic flexure
3. Polyp at 40 cm
4. Biopsies rectosigmoid

Final Diagnosis:
Colon polyps at 3 and 5 folds distal to ileocecal valve, biopsy: polypoid colonic mucosa containing possible hyperplastic change. No evidence of adenomatous change or malignancy.
Hepatic flexure polyp, biopsy: adenocarcinoma.
40 cm colon polyp, biopsy: adenomatous polyp. No evidence of malignancy.
Rectosigmoid, biopsy: multiple fragments of colonic mucosa containing adenomatous change and focal glandular atypia consistent with adenocarcinoma.

OPERATIVE REPORT

May 23, 2007

Procedure: Total colectomy and liver biopsy

Findings: Large hepatic flexure cancer. Rectosigmoid cancer. Multiple large polyps throughout the colon but not a familial polyposis type pattern. Palpable large lesion in the right lobe, interoposterior aspect, of the liver.

SURGICAL PATHOLOGY REPORT #2

May 23, 2007

Microscopic Description:
Examination of sections of the liver biopsy reveals involvement by adenocarcinoma consistent with metastatic colon carcinoma.

Examination of sections of the colectomy specimen reveals multiple adenomatous polyps. In additional there are two areas of infiltrating moderately differentiated adenocarcinoma. In both areas the tumor extends completely through the bowel wall into the surrounding fatty tissue. There is focal lymphatic space invasion. No definite vascular space invasion is seen. No perineural invasion is seen. There is no significant lymphocytic response to the tumor. Twenty-five mesenteric lymph nodes are identified and seven contain metastatic carcinoma. Focal involvement of the perirectal soft tissue margin by tumor cannot be excluded. The distal mucosal margin of the colectomy specimen contain adenomatous change but appears free of malignancy. The proximal mucosa margin is free of atypia.

Sections of the anastomotic rings reveal two fragments of tissue. One is a fragment of unremarkable small bowel tissue. The second is a fragment of colonic tissue which contains focal adenomatous change. No malignancy is seen.

Final Diagnosis:
Liver, biopsy showed metastatic adenocarcinoma.
Colon, total colectomy - two areas of infiltrating moderately differentiated adenocarcinoma extended completely through bowel wall into surrounding fatty tissue. Multiple adenomatous polyps.
Twenty-five mesenteric lymph nodes identified, seven contain metastatic adenocarcinoma.
Distal mucosa margin of specimen contains adenomatous change.
Focal tumor cannot be excluded at perirectal soft tissue margin of specimen.
Proximal anastomotic ring - benign small bowel tissue.
Distal anastomotic ring - colonic tissue containing focal adenomatous change. No evidence of malignancy.

END Colon Case 7

Colon Case 8

SURGICAL PATHOLOGY REPORT

January 21, 2007

Specimen:
A. Sigmoid colon open end proximal
B. Anastomotic rings

Final Diagnosis:
A. Sigmoid colon, segmental resection: Invasive adenocarcinoma with focal neuroendocrine features arising in a tubular adenoma. Eleven lymph nodes are negative for tumor (0/11). Margins for tumor.

Large Bowel-Colectomy for Carcinoma
Tumor Type: Adenocarcinoma
Histologic Grade: Moderately differentiated
Tumor Location: Sigmoid colon
Gross Configuration: Plaque-like
Pre-existing Polyp (At the site of the carcinoma): Present, tubular
Tumor Size: Length 2.4 cm, width 2.1 cm, maximal thickness 0.3 cm
Local Invasion: Tumor invades the muscularis propria
Tumor Perforation: None
Free Serosal Surface (for colonic tumors only): Not involved by tumor
Vascular Invasion: Present
Perineural Invasion: None
Surgical Margins: all surgical margins are free from tumor
Distance from Pectinate Line: N/A
Polyps (away from the carcinoma): None
Lymph nodes: 0 of 11 pericolic lymph nodes are positive for metastatic carcinoma.

Comment: Immunostains for chromogranin and synapthophysin has been examined.

END Colon Case 8

Colon Case 9

SURGICAL PATHOLOGY REPORT

July 27, 2007

Gross Description
The specimen consists of a segment of bowel measuring 9.5 cm in length and 5 cm in circumference. 3 cm from the closest end margin and 2.2 cm from the radial margin is an annular obstructive polypoid lesion measuring 3.5 x 3.2 x 1 cm. Sectioning through the lesion shows invasion through the wall, grossly. The adipose tissue is placed in Dissect Aid fixative to aid in lymph node identification. After further fixation in Dissect Aid, the adipose tissue is dissected for lymph nodes. Lymph nodes are submitted as follows: Cassette 1C contains five lymph nodes and Cassette 1D contains five lymph nodes.

Final Diagnosis: Colon, transverse, resection: poorly differentiated mucinous adenocarcinoma with signet ring cells.

Tumor Size: 3.5 x 3.2 x 1 cm
Histologic Type: Mucinous adenocarcinoma
Histologic Grade: Poorly differentiated
Margins: Radial margin: Involved by tumor. All other margins are free of tumor.
Blood Lymphatic Vessel Invasion: Absent
Large Vessel Invasion: Absent
Perineural Invasion: Absent
Regional Lymph Nodes: One of six pericolic lymph nodes with metastatic adenocarcinoma.

END Colon Case 9

Colon Case 10

SURGICAL PATHOLOGY REPORT

April 1, 2007

Gross Description: At mid portion of the specimen there is a constricting and apple core type tumor mass, which measures 7.5 cm along the long axis of bowel and 4cm circumferentially. The tumor invades entire wall and causes ring-type constriction and puckering of the serosa and producing a mass in the serosa, which measures 4 x 3 cm in greatest dimensions. Distal to the main tumor there is a flat circular tumor, which measures 1.5 x 1.5 cm in greatest dimensions. This tumor involves entire bowel wall with slight puckering of serosa. The latter tumor measures 4 cm proximal to surgical resection margin of the bowel. Pericolonic adipose tissue has lymph nodes, which are dissected and submitted for examination.

Final Diagnosis: Specimen of low anterior resection:

Moderately differentiated invasive and constricting adenocarcinoma of sigmoid colon with areas of mucin production involving entire wall with extension to pericolonic adipose tissue (larger primary tumor). The tumor measures 7.5 x 4 cm and reveals perineural and lymphatic invasion.

Well differentiated invasive adenocarcinoma of descending colon involving entire bowel wall with extension to pericolonic adipose tissue.
Tumor measures 1.5 cm in diameter.
Lymphovascular invasion is not identified.
Tumor is located 4 cm proximal to closest surgical resection margin of the bowel.
Metastatic adenocarcinoma to twenty out of twenty-six regional lymph nodes with extensive perinodal soft tissue and perineural involvement.

TREATMENT SUMMARY

May 2, 2007

Colonoscopy revealed an ulcerated mass lesion at approximately 60 cm, biopsy consistent with adenocarcinoma. The patient was found to have evidence of hepatic nodules at the time of surgery as well as lymphadenopathy at porta hepatis. Low anterior resection was performed. Surgical path showed 2 separate lesions in the colon. A moderately differentiated adenocarcinoma of sigmoid colon involving entire wall with extension to pericolic adipose tissues measuring 7.5 cm x 4 cm with perineural invasion and a well differentiated invasive adenocarcinoma involving entire wall with extension to pericolic adipose tissue measuring 1.5 cm. Metastatic adenocarcinoma was identified in extensive perinodal soft tissue involvement.

CEA elevated at 60.8, hgb 12.1. A CT scan of abdomen and pelvis done postop showed multiple low-density lesions in the liver, largest measuring 6.5 cm in the right lobe and a 5 cm lesion in the left lobe.

Impressions:
1. Metastatic colon cancer with liver metastasis. Discussed with the patient and his wife the implications of this diagnosis, specifically this unfractionated heparin represents and incurable disease. However, with specific systemic therapy one could hopefully achieve a good response and remission. With the arrival of multiple new agents, the median survival for the patient with metastatic colorectal cancer has nearly doubled in recent past. We

touched upon the options ranging from all standard of care 5-FU/leucovorin to current set of care comprising of either agent regimen such as FOLFOX-4 or combination of Avastin with either FOLFOX or 5-FU/leucovorin. His performance status needs to be improved a little bit and he needs to recover from his surgery. I will see him back in about 10 days' time.

END Colon Case 10