

Endoscopy Procedure
05/12/2007

Procedure: Colonoscopy

Indications: Rectal bleeding

Medications: Midazolam 4 mg IV, Fentanyl 100 mcg IV

Complications: No immediate complications

Procedure: Prior to the procedure, a History and Physical was performed, and patient medication allergies have been reviewed. The patient's tolerance of previous anesthesia has been reviewed. The risks and benefits of the procedure and the sedation options and risks were discussed with the patient. All questions were answered and informed consent was obtained. Patient identification and proposed procedure were verified prior to the procedure by the physician in the procedure room. After I obtained informed consent, the scope was passed under direct vision. Throughout the procedure, the patient's blood pressure, pulse, and oxygen saturations were monitored continuously. The Olympus scope CF-Q160L (2203413) was introduced through the anus and advanced to the descending colon. The colonoscopy was accomplished without difficulty. The patient tolerated the procedure well. The quality of the prep was poor.

Findings: A completely obstructing large mass was found at 80 cm in the descending colon. The mass was circumferential. No bleeding was present. The scope could not pass through a lumen that appears to be 3 or 4 mm. This was biopsied with a cold forceps for histology. The mass was hard to the forceps. Multiple small-mouth diverticula were found in the sigmoid colon.

Impression: Completely obstructing tumor. Removal was not done. This mass could be diverticulitis, but I am more concerned that it is malignant.
Diverticulosis

Recommendation: Perform an abdominal CT scan. Will need referral to a colorectal surgeon. I have discussed the case already with colorectal surgery who viewed this lesion.

Radiology Report
05/15/2007

Abdomen with Contrast

Clinical History: 239.0 Digestive neoplasm, NOS

Results: CT abdomen and pelvis performed 05/15/2007. No prior study is available for comparison.

The patient was administered 100 cc's of omni 350 intravenous contrast as well as PO contrast. There was a suboptimal injection with incomplete opacification of the vascular structures. Portions of this exam are essentially noncontrast in terms of intravenous opacification.

The visualized portion of the lung bases is unremarkable. The liver is normal in size and contour. The liver demonstrates a lesion with decreased attenuation in the posterior right hepatic lobe which measures 2.0 x 1.1 cm. This lesion is worrisome for metastasis as the patient also demonstrates an abnormality involving the splenic flexure of the colon. The remainder of the liver is otherwise unremarkable. No intra or extrahepatic bile duct dilatation. Gallbladder demonstrates multiple stones and is somewhat contracted. The spleen is enlarged. Pancreas, bilateral adrenal glands and bilateral kidneys are unremarkable. The patient is status post gastric wide band procedure. The stomach and visualized loops of small bowel are unremarkable. As previously mentioned the patient demonstrates an abnormality involving the splenic flexure of the colon. In this area there is marked wall thickening of the colon and the colon is dilated. This appearance is worrisome for neoplasm. The remainder of the colon is unremarkable. No evidence of definite abdominal or pelvis lymphadenopathy. There are multiple areas of soft tissue density that are serpiginous throughout the abdomen and pelvis and bilateral inguinal regions. However these most likely are varices although these are not well defined secondary to the lack of contrast opacification.

The abdominal aorta tapers normally and shows no evidence of abnormal dilatation. No free air in the abdomen or pelvis. There is some pelvic fluid located posteriorly in the abdomen or pelvis. There is some pelvic fluid located posteriorly in the inferior pelvis. The prostate is enlarged. Urinary bladder is unremarkable. The subcutaneous fat demonstrates diffuse anasarca. Bilateral kidneys do concentrate and excrete contrast satisfactorily.

Impression:

1. The findings worrisome for malignancy involving the splenic flexure of the colon with possible liver metastases.
2. Splenomegaly
3. Status post gastric wide band procedure
4. Cholelithiasis
5. Inferior vena cava filter
6. Apparent collateral vessels throughout the abdomen and pelvis although this is a suboptimal study without contrast. A small amount of free fluid in the pelvis.
7. Anasarca
8. Enlarged prostate

Radiology Report
05/19/2007

Abdomen w/ and wo/ Contrast

Clinical History: 155.2 Liver cancer

Results: The images demonstrate the lung bases to be clear. The visualized images of the heart are within normal limits with no significant pericardial effusion is noted.

There is poor contrast enhancement on today's study for undetermined reasons. This appears to be a trend with this patient. In which the prior exam also demonstrates poor contrast enhancement. Because of this, very little extra information about the patient's liver mass was obtained. An ultrasound or MRI would probably be better at differentiating this lesion at this point. The images demonstrate splenomegaly with no focal lesion being noted. A hypodense lesion is identified in the right posterior lobe of the liver butting the liver capsule and measuring approximately 2.8 cm in maximal transverse diameter. The gallbladder is visualized and demonstrates multiple calcifications within its limit consistent with gallstones. An IVC filter is identified in a similar location to that of the previous examination. Gastric banding surgery has been performed.

A large mass is identified involving the splenic flexure, which demonstrates a thickened wall. The mass does not appear to be causing bowel obstruction but it spans within the colon approximately 12 cm.

The pancreas and adrenal glands demonstrate no obvious abnormality. The kidneys concentrate and excrete contrast and appear free from focal abnormality. No abdominal paraaortic lymph nodes are definitively identified. Several venous collaterals are identified near the renal vessels. A cardiophrenic lymph node is identified that measures approximately 8 mm in its short diameter.

The aorta tapers without evidence of aneurysm or dissection.

Impression:

1. Large colonic mass at the splenic flexure
2. Hypodensity within the liver that is poorly evaluated on this examination
3. Multiple gallstones
4. IVC Filter
5. For further evaluation of the liver lesion, an MRI or ultrasound might be helpful. Poor contrast enhancement has been noted on both today's CT and the prior CT.

Discharge Summary

Date of Admission: 06/08/2007

Date of Discharge: 06/14/2007

Reason for Admission: This is a 52-year-old male with a circumferential mass found during work-up for GI bleeding. C-scope by GI found a circumferential mass near the splenic flexure. The patient was referred to colorectal surgery with a CT scan that showed a possible liver lesion related to this mass. The patient was set up for a left hemicolectomy with possible liver biopsy versus hepatectomy.

Hospital Course: The patient was admitted and was brought to the operating room. During the exploration of the abdominal cavity it was noted that the splenic flexure mass was involved in the surrounding structures including the spleen and tail of the pancreas. Another surgeon was consulted during the operation for removal of the spleen and distal pancreas. It was a very complicated case. Please see procedure note from 06/08/2007. During the case it was decided not to proceed with hepatectomy due to the length of the case and amount of blood loss. Postoperatively the patient was held in overnight recovery and did very well. The patient was controlled with PCA. The patient was transferred to the floor. On postoperative day #1 the patient did have a NG tube in place which was removed after little to no production from it. After transferring to the floor the patient was ambulating in the hall without difficulty. On postoperative day #3 the NG tube was discontinued. JP drains were putting out a volume of serous fluids at 2-300 per day. On postoperative day #4 the patient had flatus and was given a clear liquid diet. On postoperative day #5 the patient was given a regular diet after having a bowel movement. On postoperative day #6 the patient was doing well and tolerating pain with oral pain meds and ambulating without difficulty. One JP drain had been removed. The patient had remained afebrile since surgery. The patient's pathology returned as an invasive T4 into high grade adenocarcinoma with positive margins. Hem/onc was consulted and recommended close follow-up for possible chemotherapy, systemic, as well as a hepatic resection at a later date. The patient was doing very well and was to be discharged home. For more information please see the patient's notes.

Discharge Diet: Regular

Activity: No strenuous exercise or heavy lifting x 6 weeks. Keep the incision clean and dry. The patient may shower. No bath.

Discharge Medications:

1. Resume home meds
2. Percocet 5/325 take 1-2 p.o. q. 4-6 hours p.r.n. pain

Follow-up: The patient is to be seen in 2 weeks.

Procedures Done: Splenectomy, distal pancreatectomy and left colectomy on 06/08/2007.

Discharge Diagnosis: Invasive adenocarcinoma

Discharge Condition: Stable. Complaint resolved.

Operative Report
06/08/2007

Preoperative Diagnosis: Adenocarcinoma of the splenic flexure with a T4 lesion with direct extension into the spleen and tail of pancreas

Procedure: En bloc removal of the splenic flexure with en bloc splenectomy and distal pancreatectomy of the tail with en bloc removal of the anterior aspect of the left renal capsule

Procedure: I was consulted intraoperatively when the other surgeon was exploring this patient for a splenic flexure adenocarcinoma and found that it was a T4 lesion directly invading the spleen. The lesser sac was mobilized. The short gastric vessels were taken down with the LigaSure to free the spleen of the greater curvature of the stomach. The stomach was reflected anterior medially. The lesser sac had been exposed. During this it appeared that the lesion was growing into definitely the spleen and possibly the tail of the pancreas and anterior aspect of the left renal capsule. We divided the transverse colon with the GIA stapler and the left colon with the GIA stapler proximal and distal to the lesion. With this done the retroperitoneal attachments of the spleen were taken down laterally and posteriorly and the spleen was rotated anteromedially along with the tail of the pancreas. The lesion was questionably involving the anterior capsule of the kidney and the anterior aspect of the capsule, especially superiorly which was excised en bloc with the specimen as the specimen was continued to be rotated anteromedially. The splenic artery was ligated with 2-0 ties x 2 and left in situ. The splenic vein was mobilized near the tail of the pancreas at the splenic hilum and ligated proximally and distally with 2-0 ties as well with double ligation on the retroperitoneal aspect that would remain within the patient's side. With this the only remaining attachments were the tail of the pancreas which the splenic flexure was adherent to as well. The tail of the pancreas was divided with a TA-60 green thick tissue stapler, fired and the tail of the pancreas was amputated where it was surgically clear from direct extension of the tumor and the specimen was removed en bloc which again included the splenic flexure of the colon, spleen, tail of the pancreas and anterior capsule of the kidney. This was submitted to pathology for permanent section and hemostasis was adequate; in the suprarenal area near the adrenal gland there was some bleeding which was oversewn with running, locking Vicryl suture. With hemostasis achieved the patient was noted to have the catheter from his Lap-Band in place. Two 10-mm closed suction drains were brought out through a left lateral stab incision and placed in the vicinity of the anterior superior pole of the kidney and stapled off tail of the pancreas to control these organs for any potential leak from them postoperatively. The two drains were anchored to the skin with 2-0 nylon sutures. The case was turned then back over to the first surgeon for the primary closure anastomosis. Intraoperatively it was also palpated that the patient had a 2 to 3 cm liver lesion in the right posterolateral aspect of the liver, possibly consistent with a segment 7 lesion. Given the intraoperative blood loss of approximately 1.5 liters, and the extended time of surgery with extended dissection requiring en bloc removal of multiple organs, the possible liver resection was deferred as a sequence to staged procedure as the patient may benefit from possible chemotherapy prior to the planned sequence staged removal of the metastatic liver lesion.

Operative Report
06/08/2007

Preoperative Diagnosis: Splenic flexure mass

Postoperative Diagnosis: Splenic flexure mass

Procedure: En bloc resection of splenic flexure mass with splenectomy and distal pancreatectomy

Anesthesia: General endotracheal

Estimated Blood Loss: 1500 mL

IV Fluids: Per anesthesia

Indications: This is a pleasant white 52-year-old male who presents with an obstructing splenic flexure lesion initially worked up for colonoscopy secondary to anemia. He comes to the operating room today for resection of the splenic flexure mass.

Procedure: After the patient was admitted and taken to the operating theatre after adequate general endotracheal anesthesia was administered, he was prepped and draped in the usual sterile surgical fashion. A midline incision was made from the xiphoid to the pubis and carried into the peritoneal cavity was entered sharply so as not to injure any intra-abdominal structures. Once the peritoneal cavity was entered, the Bookwalter retractor was placed, and with gross palpation a mass in the liver was noted which the other surgeon would be contacted later on in the procedure about. On gross exam of the abdomen, there was a large hard infiltrating splenic mass that was noted. It appeared to be grossly going into the spleen. Nevertheless, after discussion the procedure was continued with mobilization along the white line of Toldt on the left gutter, chained to the splenic flexure as far as it would go. Next, the distal transverse colon and omentum was removed with great care, removal of a lot of the tissue and pericolonic fat and other structures, such as the stomach, which was seemingly fibrosed to this lesion. Once the lesion was relatively isolated, except for its attachment to the spleen which infiltrated into and potentially the left kidney, surgical oncologist was notified. After much discussion, it was decided to do an en block resection of this lesion. You can refer to the surgical oncologist dictation of this as well. In summary, after isolation of the colon from the surrounding structures, it was decided the spleen should be removed. After taking the short gastrics to the spleen with the LigaSure, the splenic vein, which was thrombosed as well as the splenic artery was taken with silk sutures and transected with Metzenbaum scissors. The adequate performance resection of tail of the pancreas also had to be taken. This was done with suture ligation as well as a stapler. There was concern that this lesion was going into the kidney, however, it was seen that a small plane could be performed just about the kidney and taking some of the capsule on Gerota's fascia as well. Once adequate mobilization was performed of this mass around it surrounding structures, two stapler fires were performed with the GI 75. The mesentery was taken sequentially with Kelly clamps, Metzenbaum scissors, and 0 Vicryl passed

off of the field as an en bloc specimen. The left upper quadrant was packed for the amount of oozing, denuded, peritoneal surface. Adequate length could be made for anastomosis between the mid-transverse colon and the sigmoid colon. This was performed by a Furniss clamp on the distal sigmoid colon and placing the anvil and then making a colotomy in the transverse colon passing the EEA stapler and subsequently performing anastomosis. A TA60 was used to close the duodenum in the transverse colon. All sites were oversewn with a 3-0 Ethibond in Lembert fashion as well. This counted for the TA60 colotomy closure as well as the EEA anastomosis. The abdomen was copiously irrigated. Two JP drains were placed in the distal pancreas bed and splenic bed for drainage purposes. There were no other foci of bleeding noted. The patient was closed with a looped 1 PDS x 2 after Seprafilm was placed, and staples were used to close the skin. The patient tolerated the procedure well. All sponge and needle counts were correct.

Pathology Report
06/08/2007

Specimen: Spleen, splenic flexure mass, tail of pancreas en bloc

Preoperative Diagnosis: Colon cancer

Gross Description:

Received fresh is a specimen which consists of spleen, large intestine, and tail of pancreas. It is very difficult to give exact measurements of tail of pancreas and the size of the intestine since there is a common mass which grossly invades into the spleen, the pancreas, and the intestine. The spleen measures 18 x 11.5 x 8.3 cm. The capsule is dull and gray. On cut sections, the spleen is rubbery, red to brown. At the hilum, there are multiple rubbery, lobulated, tan nodules compatible with tumor. Grossly it appears that the tumor is invading the spleen from the hilum and adjacent colon. All together the specimen weighs 1,243 gm. The large intestine measures about 26 cm, it has a proximal margin of 8 cm and a distal margin of 7.2 cm. At the splenic flexure, 7.5 cm from the proximal margin, and 5.5 cm from the distal margin, there is an ill-defined 13 x 5 cm rubbery, firm tumor which involves the pancreas. It invades into the intestinal mucosa and the spleen. It is difficult to obtain an exact measurement of the pancreas due to all of the adhesions and bulk of the mass. The pancreatic margin is identified. On cut section, the tumor is about 0.5 cm from the surgical pancreatic margin. Where the mass invades the intestine closer to the proximal margin, the lumen of the intestine is obstructed by tumor. Between the splenic hilum and intestine on cut section there is a 7 x 5.5 cm cavity which has an opening towards the distal margin of the intestine. The whole cavity is surrounded by tumor. A small to moderate amount of fat is attached to the free peritoneal surface of the intestine. Due to the complexity of the mass and specimen it is very difficult to get an exact count of nodes. A lot of lymph nodes grossly have metastases and are attached to the tumor. Multiple lymph nodes are identified. The specimen is sectioned. Representative sections are submitted labeled as follows:

- A Pancreatic margin and tumor
- B Proximal margin of intestine
- C Distal margin of intestine
- D-E Obstructed lumen of intestine by tumor close to proximal margin
- F-G Relationship between tumor and mucosa at the distal margin
- H-I Relationship between spleen, tumor, and intestine
- J-K Section of spleen at the hilum
- L-N Lymph node

Microscopic Description:

This high grade colon carcinoma invades the spleen, the pancreas, has metastasized to sixteen pericolic lymph nodes, and has extended in a diffuse manner into pericolic fat. There is abundant evidence of vascular invasion.

Gross and Microscopic Diagnosis:

High grade adenocarcinoma of the colon with extension into pancreas and spleen, and with sixteen pericolic lymph nodes involved with metastatic adenocarcinoma.

pT4 N2 MX

Provider Note
08/01/2007

This is a 52-year-old male with metastatic colon cancer, who is here today for follow-p. He was to start chemotherapy with FOLFOX and had a port placed, however, he promptly clotted it. He had an ultrasound done of his left upper extremity last week, which showed him to have clots in the axillary, subclavian, brachial, basilic and cephalic veins. The left jugular vein was patent. He has been on Coumadin and his INR has been therapeutic. The swelling in his forearm has actually decreased, but he still has some persistent swelling of his arm. He also had a nodular swelling in the suprapubic region and this has also subsided. He continues to have scrotal swelling as well, which has not gone down yet. His wife states that his abdominal wound actually looks much better.

Past Medical History: Complicated and includes recurrent thrombophlebitis and DVT. He also has morbid obesity and had gastric banding done; however, the band is currently removed. He has had an episode of acute cholecystitis and has gallstones. He has chronic ulcerations of this right lower extremity.

Medications and Allergies: Are as listed on the MedCard

Physical Examination: His weight is 226 pounds; blood pressure is 100/56, pulse is 87, and temperature is 97 degrees Fahrenheit. Oral mucosa is clear. There is no pallor and no icterus. Neck: Supple. Thyroid does not appear to be enlarged. There is no lymphadenopathy felt in the neck, supraclavicular or axillary region.

Chest: Clear to auscultation and percussion bilaterally

Cardiac: S1, S2 are heard

Abdomen: Soft. The midline surgical wound still has 2 small areas, which are not healed, but this is a very superficial area. His suprapubic nodularity has actually improved. The scrotal swelling continues to be present.

Extremities: He now has swelling in his left upper arm. The port site does not appear to be infected.

Investigations: He had a CBC done today, which showed a white count of 9.64, hemoglobin of 8.3, and a platelet count of 961,000. Chemistries were unremarkable. A CEA was also ordered for baseline purposes and this was 2.6 and INR from today was actually 4.4.

Impression and Plan:

1. Metastatic colon cancer. I do not think we can use the port for his chemotherapy today and therefore, he will get Xeloda instead of infusional 5FU and Leucovorin. Also given his significant thrombophlebitis, I am reluctant to given him Avastin. Oxaliplatin will be given at 130 mg/m². Xeloda was given at 2 gm/m² in 2 divided doses for 14 days.
2. He has been on Coumadin 7.5 mg p.o. every day. I will decrease that to 5 mg p.o. every day since his INR is 4.4. However, he needs to have this PT/INR done weekly.

Provider Note
08/22/2007

This is a 52-year-old male with a history of metastatic colon cancer, who is here today for a follow-up. He states that his swelling in his left upper extremity around the port has subsided and his left arm is back to normal. He has tolerated his first cycle of chemotherapy extremely well. He received Oxaliplatin at 130 mg per meter squared as well as Xeloda because his port was not being used. He states that he has had no nausea or vomiting and no diarrhea. He also denies any mucositis. He also had some swelling around his scrotum, which has all subsided. The thrombosis that was present in the superficial vessels has also decreased. He has been gaining weight and really doing well. He continues to be anemic and that is in spite of taking 3 iron pills a day.

Physical Examination: His weight is 224.8 pounds, blood pressure is 94/60, pulse is 74, and temperature is 96.6 degrees Fahrenheit.

Oral mucosa is clear. Pallor is present. There is no icterus.

Neck: Supple. There is no lymphadenopathy felt in the neck, supraclavicular or axillary region.

Chest: Clear to auscultation and percussion bilaterally

Cardiac Exam: S1 and S2 are heard.

Abdomen: Soft. There is good healing of the midline scar. The suprapubic thrombophlebitis continues to be present, but there is significantly improved. There is no scrotal swelling. There is no inguinal lymphadenopathy.

Skin: Continues to show ulceration in his right lower extremity, but does not appear to be infected and it is actually smaller than on the previous visit.

Investigations: CBC was done and the hemoglobin was 8 gm. White count and the platelet count are pending.

Impression and Plan:

1. Metastatic colon cancer. I will check the CBC and chemistry today, but if the numbers look good, then he needs to start cycle 2 of chemotherapy with FOLFOX.
2. Hypercoagulable state with multiple episodes of thrombosis. His INR is subtherapeutic and his Coumadin has been increased from 5 mg to 5 mg alternating with 7.5 mg.
3. He needs to get Aranesp for his anemia. He also needs to continue with oral iron.

Provider Note
10/31/2007

This is a 53-year-old male with a history of metastatic colon cancer, who has had disease progression on FOLFOX as seen on the CT scan of the abdomen. He is here today with his wife for his next cycle of treatment. He states that he has been feeling poorly. He has had more abdominal distention since the last time we saw him. He also has some fluid in his lower extremities, but this is minimal and unchanged from his last visit. He also has had diarrhea over the last 3-4 weeks and this is resolving.

Physical Examination: His weight is 246 pounds, blood pressure is 122/75, pulse is 78, and temperature is 95.8 degrees Fahrenheit.

Oral mucosa is clear. There is no lymphadenopathy felt in the neck, supraclavicular or axillary region.

Chest: Clear to auscultation and percussion bilaterally

Cardiac Exam: S1 and S2 are heard

Abdomen: More protuberant than it has been in the past. There is some free fluid that is appreciated. There is a mass also felt near the midline, which may be hernia or may also be a tumor.

Extremities: Show trace edema

Investigations: His white count was 10.17, hemoglobin was 12.2, and platelet count was 309,000. Alkaline phosphatase was slightly elevated at 140. His INR was elevated at 6.4.

Impression and Plan:

1. Metastatic colon cancer. His chemotherapy will be changed to IFL plus Avastin. He has a history of DVTs in the past, but I think, given the risks and benefits, this is probably something we should be able to do. He is agreeable to this and in fact, has been asking me for Avastin over the last several weeks. We will keep a close eye on him.
2. His INR is elevated to 6.4 and he has been asked to hold his Coumadin. He will get a repeat PT/INT done on November 2nd and I will readjust his Coumadin dose at that time.