Ch 5 - A 38-year-old woman with abdominal pain

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How did we get this case?

I had heard Gillian on the Risk Management Monthly program (with Mel Herbert, Greg Henry, Rick Bukata) discussing her feelings about receiving that 'letter in the mail'. She cared for this patient when she was a resident, though the patient was cared for by multiple doctors. On the program she discussed her feelings about being sued, but there was not an indepth discussion about the case.

I 'googled' then called her and she was enthusiastic about using the case for the book. After about 3 million calls to the hospital, permission by the patient, and multiple discussions with medical records, I received a packet of charts. The case was good! It highlights the issue of supervision and teaching of residents, coordination of care with radiology and specialists, and what to do with incidental (or non-incidental) findings on CT scans!

Gillian was wonderful to work with and we spoke several times (one call was while I was waiting in line and then ordering Chipotle Grill for the family - sorry Gillian), she has since published articles on treatment of MRSA in the community:

How Do You Treat an Abscess in the Era of Increased Community-associated Methicillin-resistant Staphylococcus Aureus (MRSA)?

Gillian R Schmitz in The Journal of emergency medicine (2011)

2. Final ED visit w diagnosis

TRIAGE: Time Seen: 1606 PM.
Arrived-By private vehicle. Historian -patient. History limited by severe pain. Physical Exam limited by severe pain.
Note: Previous visits to this facility for similar complaints. No history of asthma or emphysema.
Not a nursing home resident, pregnant or receiving treatment for cancer. No recent alcohol.
Attending Note: I personally interviewed the patient and examined the patient. I have personally reviewed the X-rays.
HISTORY OF PRESENT ILLNESS Chief complaint-ABDOMINAL PAIN. This started just prior to arrival about l hour ago (Husband spoke to patient at work at approx. 1:30pm on the phone and patient was fine Half an hour later, patient's work called husband and told him that patient suddenly started having excruciating abdominal pain. Patient says this is similar but worse than her splenic infarct one moth ago. Was seen in follow-up in the vascular

surgery clinic after splenic infarct and they recommended Chest CT and thromobophillia labs neither of whichever got done. It is described as sharp and well localized. Quality not described as burning, dull or migrating and it is described as located in the epigastric area and in the upper abdomen. No radiation. At its maximum, severity described as severe and 10 *1* 10. When seen in the E.D.,severity described as severe and 10 / 10. Modifying factors - Not worsened by anything. Not relieved by anything. She has had nausea. No loss of appetite, vomiting or diarrhea. The patient has had similar symptoms once previously (1 month ago) .

REVIEW OF SYSTEMS

No constipation, black stools, hematemesis, difficulty with urination or pain with urination. No urinary frequency, missed periods, abnormal bleeding, bloody stools or irregular periods. No fever, headache, sore throat, blurred vision or chest pain. No difficulty breathing, cough, joint pain, chills or back pain. All systems otherwise negative, except as recorded above.

PAST HISTORY Diabetes mellitus. Other disease. Splenic infarct lmonth ago secondary to clot. No history of peptic ulcer. No history of gallstones, bowel obstruction, hypertension or hyperlipidemia. Has not had urinary calculi.

Medications: None. Allergies: No known drug allergies.

SOCIAL HISTORY Nonsmoker. No alcohol use or drug use. No recent travel. Is a local resident. Resides in a house. The patient lives with spouse.

FAMILY HISTORY Negative.

PHYSICAL EXAM Appearance: Alert. Oriented X3. Appears to be in pain. Patient in severe distress. Vital Signs: Abnormal -hypertensive; heart rate normal; respiratory rate normal; temperature normal. Eyes: Pupils equal, round and reactive to light. Eyes normal inspection. ENT: Nose normal. Pharynx normal. Neck: Normal inspection. Neck supple. CVS: Normal heart rate and rhythm. Heart sounds normal. Pulses normal. Respiratory: No respiratory distress. Breath sounds normal. Abdomen: Severe tenderness in the upper abdomen. Abdomen soft. No organomegaly. No guarding, rebound tenderness, organomegaly, abdominal distention or mass present. The bowel sounds are not abnormal. Back: Normal inspection. No CVA tenderness. Rectal: Rectal exam normal. Rectal exam nontender. Stool heme negative. Skin: Normal skin color and turgor. Skin warm and dry. No rash. Extremities: Extremities exhibit normal ROM. No lower extremity edema. Neuro: Oriented X 3. No motor deficit. No sensory deficit.

LABS, X-RAYS, AND EKG Abdominal CT: Normal aorta. Normal liver, spleen, pancreas, gallbladder and adrenals. Normal kidneys. Bladder normal. No mass. No free fluid. No bony lesion. Occluded superior mesenteric artery. The abdominal CT was independently viewed by me and interpreted by the radiologist. CBC: WBC 17.5 - moderate leukocytosis. Hgb 27.2 -moderate anemia. HCT 8.3 -moderate anemia. Platelets 905 -marked thrombocytosis. Chemistries: Normal Na -140. Normal K -3.6. Mild base deficit --21. Hyperglycemia-198. Normal BUN -14. Normal Cr -0.6. Urinalysis: Micro: few mucous casts. Urine dipstick positive for glucose (stronglypositive), ketones (strongly positive) and small protein.

PROGRESS AND PROCEDURES

E.D. Course: 1647. Zofran given for nausea. Dilaudid 1mg IV given for pain.

1653. Patient is stable. Physical exam findings are unchanged. Symptoms betterwith morphine 4 mg IV. CBC, Chern 10, CT chest/abd/pelvic with IV/PO contrast ordered (to eval abd perfusion), U/A (to r/ofor UTI), lactic acid levelordered. Results not back *yet.* Discussed CT with radiology resident and conveyed my concern that she had mesenteric ischemia given her recent aortic clot and splenic infarct. He recommended PO/IV contrast.

1730. CBC and Chern 10 back. Marked thrombocytosis likely secondary to old splenicinfarcts. Patient still has not been taken back for CT.

1830. Patient re-examined several times in the past hour while awaiting CT scan. Patient reports new bilateral flank pain. BP 175/106. Called CT and asked them to expedite CT.

1848. Pt. is resting. Physical exam unchanged. Still awaiting CT scan.

Pain control moderate with morphine 8 mg and dilaudid 1 mg since ED admission.

1931. Patient back from CT scan. Status unchanged. Awaiting radiology read of CT.

21:43. Went to radiology and reviewed CT with the resident. Patient has occlusion of superior mesenteric artery. Surgery was consulted and patient is being urgently admitted to surgery service. Will go to OR for thrombectomy. Critical care performed (30 minutes). Time is exclusive of separately billable procedures. Time includes: direct patient care, patient reassessment/coordination of patient care, interpretation of data (pulse oximetry and chest

xrays) / review of patient's medical records, medical consultation/consultation with family regarding care and documentation of patient care.
Consult obtained from surgery. Case discussed. Will see patient in the ED. Consultation performed in ED. Consult note reviewed. Agree with treatment plan. Patient and spouse counseled in person regarding the patient's stable condition/test results, diagnosis and need for admission and surgery. Old inpatient and clinic records reviewed. Disposition: Admitted to General Surgery.
CLINICAL IMPRESSION
Acute mesenteric ischemia . Occlusion of superior mesenteric artery.

3. Complete hospital discharge summary

CONSULTING PHYSICIAN: Non-dictated.
DISCHARGING RESIDENT: XXXXXXX, M.D.
DISCHARGING SERVICE: Trauma surgery.
DISPOSITION: Discharged to home self.
FINAL DIAGNOSES:
1. History of aortic disease, splenic infarct.
2. Diabetes status post laparoscopic cholecystectomy in 1995.
3. Acute thrombosis of superior mesenteric artery.
4. Short gut syndrome, prolonged nausea and vomiting.

PROCEDURES:
1. On 8/17, exploratory laparotomy, no resection (dusky small bowel seen, combined case with vascular surgery who performed a superior mesenteric thrombectomy and vacuum closure of the abdomen) .
2. On 8/18, small bowel resection around 10 cm from the ligament of Treitz up to and including a right hemicolectomy.
3. On 8/19, washout of open abdomen, wound VAC change.
4. On 8/22, reanastomosis of small bowel to colon, jejunal colonic reanastomosis, closure of abdomen.
5. On 8/21, transthoracic echocardiogram showing segmental left ventricle dysfunction, normal ejection fraction.
6. On 8/24, transesophageal echocardiogram showing normal left ventricular contractile performance, negative bubble study. No thrombus seen.
7. On 9/25, small bowel follow through showing rapid transit, no strictures, no dilatation.
8. On 10/2, upper 81 endoscopy showing gastric mucous atrophy, nonbleeding gastropathy, normal duodenum and around 15-20 em of the jejunum, hiatus hernia.
9. On 12/26, Dopplers bilateral lower extremities with no DVT seen.
HOSPITAL COURSE: This is a 37-year-old female with an acute history of aortic disease and splenic infarct who presented to the hospital in August with acute abdominal pain and was found to have superior mesenteric artery occlusion on CT scan. Her operative course and postoperative workup are described above and postoperatively, she was worked up for an altered mental status and clinical stroke. A CT scan showed no damage to internal organ or previous function. She was treated with levofloxacin and cefazolin for a central line infection with proteus mirabilis. She was started on TPN for short gut syndrome and was treated with TPN throughout her hospital course. She was worked up for nausea and vomiting with regular food and was scoped by 81 and found gastritis and recommended a proton pump inhibitor for which she was treated. Her disposition was confounded by lack of payment structures in order to pay for home TPN treatment. However, she was cycled with her TPN for overnight TPN administration but funding could never be found for her TPN at home and her albumin remained steady throughout her hospital course at 3.4. It was noticed that her TPR was normal and therefore we decreased the amount of calories that were provided in her TPN and suprisingly with her diet (short gut syndrome diet) and even though decreasing the TPN total calories, her TPR continued to rise and during the last 3 weeks of hospitalization, we decreased her TPN in to 800 total calories per day and her TPR rose, last variation was 17 to 21. We discontinued her TPN to see how she would do with her regular diet and her chemistry panels remained within normal limits. She did have some hypomagnesemia for which she was treated with high magnesium diet and her magnesium remained steady at 1.5 and in fact on the day of discharge, her magnesium was 1.6. The rest of the chemistries were within normal limits. She, on the day of discharge, also reported having 6 bowel movements a

day. Her glucose was well controlled, she would require an average 0 to 4 units of glucose per day although she was initially diagnosed with diabetes and required much more glucose at the beginning of her hospitalization. Her weight, off TPN, was initially 145 and the next day dropped to 139 and we thought this might be an error in the scale, within normal range, and her vitals remained within normal limits throughout the days that she was off TPN. She had further workups while inpatient which included:
1. Hematology-oncology consult to evaluate for hypercoagulable state given spontaneous superior mesenteric artery thrombosis. This entire workup was negative with no findings to explain her any hypercoagulable state. She was also worked up for iron deficiency anemia and followup appointments should be made to see Dr. Moll in clinic which were not arranged at the time of discharge. She was treated as an inpatient with 3 months of anticoagulation treatment dose of Lovenox.
2. Cardiology consult: A transthoracic echocardiogram to evaluate the mural thrombus which was difficult study, showed elements of left ventricular dyskinesia which were not found on more sensitive and more specific transesophageal echocardiogram as described above. In addition, there was a negative bubble study and no thrombus seen.
3. OB-Gyn: Ob-Gyn was initially consulted for vaginal bleeding while on Lovenox and the patient had a previous history of dysfunctional uterine bleeding. There was also a low-density lesion seen in the lower uterine segments on the CT scan. She had a history of abnormal Pap smear HG SIL in 7/2006 and on 12/20 she was taken by Ob-Gyn service for a colposcopy with biopsy taken and endocervical curretage. This biopsy showed high-grade SIL, CIN III with the cervix pathology reading CIN I and endocervix pathology CIN III. There was also noted to be evidence of yeast infection and the patient was treated with Diflucan as well as Monistat cream. The patient should follow up with her Ob-Gyn to discuss the results of this test.

DISCHARGE INSTRUCTIONS:
1. High magnesium short gut syndrome diet as discussed multiple times with nutrition as an inpatient.
2. Activities as tolerated.
3. No wound care necessary. The patient's abdominal wounds have healed by the time of discharge.
4. Call if fever greater than 101.5 degrees Fahrenheit, any increase in nausea and vomiting, any constipation, any dehydration, low urine output, not going to bathroom for 8 hours even after drinking water.
5. The patient was discharged with a PICC that was initially placed on 8/29 and she was given a prescription for heparin 200 mL per 2 mL flush and she was instructed on how to flush her PICC. This is the floor protocol for PICC checks. She should also have dressing changes every 7 days for her PICC dressing, this was not arranged when she was discharged on the day before Christmas.

DISCHARGE MEDICATIONS:
1. Potassium powder 20 mEq by mouth twice daily.
2. Liquid multivitamins 5 mL by mouth twice daily.
3. Nystatin cream applied to affected areas as needed for yeast infection.
4. Prochlorperazine (Compazine) 5 mg p.o. every 8 hours as needed for nausea.
5. Lansoprazole Solutabs 60 mg by mouth twice daily.
6. Turns 500 mg by mouth 3 times daily.
7. Promethazine 12.5 mg by mouth every 4 hours as needed for nausea.
8. Aspirin 81 mg by mouth daily (over-the-counter).

FOLLOWUP APPOINTMENTS:
1. Please see Trauma Surgery Clinic on Tuesday 12/26 when we will discuss long term PICC plans, arrange for home health as needed and check Accu-Chek.
2. Gynecology followup on an elective basis for irregular menses and to follow up on the pathology results as discussed above. The patient should call to arrange the appointment.
3. The patient may follow up with Hematology-Oncology for iron deficiency anemia as needed once diet is stabilized.