Acute portal venous thrombosis caused by severe sepsis and not associated with liver disease

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Acute portal venous thrombosis caused by severe sepsis and not associated with liver disease
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Background
Portal venous thrombosis (PVT) can be generally classified into three categories: acute non cirrhotic PVT, chronic PVT (also called extrahepatic portal venous occlusion), and PVT in cirrhosis. PVT is usually seen in those with liver disease and is rare in patients without. Management is usually with anticoagulation and finding and treating the etiology of the PVT. If untreated, patients can develop portal hypertension. This patient presented a unique diagnostic challenge as she had risk factors for numerous etiologies of PVT.

Case description: A 64 year old female with a history of hypertension, hyperlipidemia, and a lung nodule presented to the emergency department with fatigue, fever, nausea, and vomiting. She sought medical care upon returning home from a cruise in Mexico. She was febrile and tachycardic and, though she did not have any abdominal tenderness, stated that she had a few days prior she did have right upper quadrant abdominal pain. CT scan with IV contrast was ordered and showed a masslike area in the anterior left hepatic lobe, acute left PVT, and enlarged porta hepatitis lymph nodes. Subsequently, when the patient was inpatient, an MRCP was ordered as there was concern for malignancy given the CT findings which redemonstrated the left portal venous thrombosis and the mass described on the CT was further determined to be hepatic periporal edema. Shortly after presentation she was started on broad spectrum antibiotics given concern for sepsis as well as antiocoagulation for the PVT. Blood cultures grew streptococcus intermedius, strepconstellatus, and eikenella corrodens. Given a dental procedure two months prior, a TEE was performed which did not show vegetation and endocarditis was ruled out. Given a family history of colon cancer she had a colonoscopy which showed diverticulosis with friable mucosa. That was ultimately thought to be the etiology of her bacteremia.

Discussion: This case was interesting in that the patient had risk factors for multiple etiologies of her sepsis and PVT. She had recent dental work, recent travel on the cruise, a history of a lung nodule, family history of colon cancer, initial CT scan with concern for liver mass and possible metastatic disease. She had a thorough work up that ultimately led to the thought that her bacteremia and PVT was due to diverticular disease and her sepsis was due to her diverticulosis. She was placed on antibiotics for 4 weeks outpatient as well as started on oral anticoagulation with a plan for repeat imaging of the PVT at the three month mark to determine length of anticoagulation.

Chief Complaint: “Nausea, vomiting, fatigue, chills”

History of Present Illness: A 64 year old female presented to the emergency department with fatigue, fever, nausea, and vomiting. She flew back to the United States from a cruise to the day of presentation to the Emergency Department. She stated that she was around people on the cruise who had similar symptoms of vomiting and chills. Her symptoms started two days prior with chills and diarrhoeas and right upper quadrant abdominal pain which had resolved. Upon boarding the plane on day of presentation she experienced nausea, vomiting, and while she was vomiting uninformedly. She also admitted to a right frontal headache, but stated she regularly gets headaches and this was not abnormal in quality or severity.

She later also admitted to dental surgery 2 months prior to presentation. She denied chest pain, shortness of breath, a current feeling of nausea, dysuria, diarrhoea, constipation.

Past Medical History: Hypertension, hyperlipidemia, lung nodule

Past Surgical History: Cesarean section, total abdominal hysterectomy with bilateral salpingoophorectomy

Social History: Never smoker, occasional tobacco use

Vital Signs: Temperature 39.3°C Oral. Pulse 113, Resp. 20, BP 146/68, SpO2 97% RAO

Physical Exam:


Head: Normocephalic. Skin is warm. Pupils are equal.

Eyes: Right EOM are normal. Left EOM are normal. Pupils are equal. Neck: Normal range of motion. No neck tenderness. Cardiovascular: Regular rhythm, S1 normal, S2 normal and intact distal pulses. Tachycardia present. Pulmonary/Chest: Effort normal and breath sounds normal. No respiratory distress. She has no wheezes. She has no rhonchi.

Neurological: She is alert and oriented to person, place, and time. Skin: Skin is warm and dry. No ecchymoses or petechiae. No focal neurological deficits.

Discussion
In the emergency department, the decision was made to proceed with a CT of the abdomen pelvis given the patient’s septic picture (WBC 24. HR 113, Temp 39.3°C) with no clear source and reported earlier right upper quadrant abdominal pain. This decision revealed her unique pathology of the portal venous thrombosis, raised concern for hepatic malignancy, and she was started on anticoagulation. The next question, why did she have PVT was further investigated by the inpatient team.

She had an MRCP which showed the area on concern on CT for ill defined mass was consistent with edema and no mass was visualized. Within 24 hours her blood cultures positive for multiple organisms (streptococcus intermedius, strepconstellatus, and eikenella corrodens) and the hunt continued for the source of her bacteremia. Given her history of dental procedures she had a TEE that ruled out endocarditis, a colonoscopy which showed friable tissue and was thought to be the source of her bacteremia and PVT.

Upon discharge, she was placed on IV antibiotics for 4 weeks outpatient as well as started on oral anticoagulation with a plan for repeat imaging of the PVT at the three month mark to determine length of anticoagulation.

Bibliography