

## Case History

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A 32-year old African American woman with systemic lupus erythematosus presented to the Emergency Department with a three-day history of abdominal pain. She described the pain as sharp, originating in the right lower quadrant, but later spreading across the entire lower abdomen. She reported that the pain worsened with urination, and that menstrual cramping preceded onset of the pain. She took two oxycodone/acetaminophen tablets which gave no relief.

She had a generally decreased appetite, but no nausea, vomiting, or diarrhea. Eating neither alleviated nor exacerbated the pain.

She also noted right-sided chest pain for the previous three days. This pain was exacerbated by lying on her right side, deep inspiration, and coughing. It did not radiate and was not exacerbated by activity. The oxycodone/acetaminophen partially alleviated her chest pain. She also noted mild dyspnea.

She had a prior history of a pleural effusion which she stated was secondary to her lupus. A thoracentesis was done 5 months prior to admission, then again 3 months prior to admission. These procedures were performed at another facility and no records were available, but the patient stated that the fluid removed was "blood." She was not given a diagnosis of the cause of her pleural effusion.

The patient denied any fevers, chills or weight loss. She had no other complaints.

### Past Medical History:

- ❖ SLE, currently without rash or arthralgias, on no medical therapy.
- ❖ Pyelonephritis several years ago following episode of nephrolithiasis
- ❖ Pleural effusion, status post thoracentesis five and three months prior to admission
- ❖ Delivery: G<sub>1</sub>P<sub>1</sub>

### Medications:

- ❖ Oxycodone/acetaminophen prescribed to a relative taken only within last 3 days
- ❖ Ibuprofen 600 mg as needed, prior to 3 days ago taken infrequently
- ❖ Seasonale™ oral contraceptive, started 3 months ago, but discontinued one month ago due to unpleasant side effects

### Family History:

- ❖ Mother and father healthy
- ❖ No known cancer, heart disease, or diabetes in family

### Social History:

- ❖ Works at a retail store
- ❖ No illicit drugs, tobacco use, or alcohol use
- ❖ In a heterosexual, monogamous relationship

## Physical Exam

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General:	Well nourished, African-American woman in no apparent distress
Vital signs:	Temp 101.8°F, heart rate 150/minute, respiratory rate 20/minute, blood pressure 144/85 mmHg
HEENT:	Conjunctiva without injection or exudates. Pupils equal, round, and reactive to light bilaterally. Fundoscopic exam revealed sharp disc margins bilaterally without evidence of papilledema. Nares and oropharynx were unremarkable with moist mucus membranes.
Neck:	Supple without lymphadenopathy, thyromegaly, carotid bruits or jugular venous distention.
Heart:	Tachycardic, regular rhythm, normal S1 and S2. No gallops, murmurs, or rubs were noted.
Lungs:	Clear upper lung fields bilaterally, expiratory crackles noted in the left lung base, decreased breath sounds noted in the right lung base.
Abdomen:	Soft, tender to deep palpation RLQ>LLQ. No percussion tenderness. Rebound tenderness present, but no guarding. Bowel sounds normoactive. Rovsing's sign positive; obturator and psoas sign not tested. No masses appreciated.
Rectal:	Trace heme positive, active menses noted, no masses, nontender.
Pelvic:	Not documented.
Extremities:	No peripheral lymphadenopathy, cyanosis, clubbing, edema, or swelling or erythema of any joints was noted.
Dermatologic:	No rashes or other lesions were observed.
Neurologic:	Alert and oriented. Cranial nerve, sensory and motor examinations were grossly normal.

## Laboratory Studies

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- ❖ Sodium 140 mEq/L, potassium 3.2 mEq/L, chloride 104 mEq/L, bicarbonate 23 mEq/L, blood urea nitrogen 8 mg/dL, creatinine 0.8 mg/dL, glucose 107 mg/dL
- ❖ Albumin 3.4 g/dL, globulin 3.1 g/dL, total protein 6.4 g/dL, AST 19 u/L, ALT 29 u/L, total bilirubin 0.4 mg/dL, alkaline phosphatase 72 u/L

- ❖ WBC  $15.9 \times 10^9/L$ , hemoglobin 10.2 g/dL, platelets  $508 \times 10^9/L$
- ❖ PT 11.8 seconds, aPTT 21 seconds
- ❖ Urinalysis: protein 100 mg, RBC 8/hpf, bacteria 1+
- ❖ B-hCG negative
- ❖ Blood cultures negative
- ❖ Cervical gonococcal and *Chlamydia* cultures negative

## Hospital Course

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The Surgery service was initially consulted by the Emergency Department to evaluate the patient for possible appendicitis. Per the surgeon's request, an abdominal CT scan was obtained. This revealed moderate fluid in the uterus, a prominent right adnexa, a small amount of fluid superior and anterior to the right ovary consistent with hemorrhagic cyst versus ectopic pregnancy. The appendix was not visualized. A right pleural effusion and pneumothorax were noted.

The patient was admitted to the Surgery service. A chest tube was placed in the right hemithorax, which yielded 900 cc of bloody fluid that was not sent for laboratory analysis.

The Obstetrics and Gynecology service was consulted given the CT findings. A pelvic exam was performed that revealed tapering menstrual bleeding, no cervical motion or adnexal tenderness, and no masses were palpated. The consultant noted that ectopic pregnancy was effectively ruled out by the negative  $\beta$ -hCG. A right-sided hemorrhagic cyst was suspected to be the true CT finding due to breakthrough bleeding after the Seasonale™ course. The consultant felt that the abdominal pain was most likely of non-gynecologic origin.

A chest CT was obtained, which revealed the presence of the chest tube, bilateral atelectasis, and ground glass opacities in the right middle lobe anterior to the location of the chest tube. The Pulmonary service was consulted at this point to evaluate the cause of hemopneumothorax in the setting of recurrent pleural effusions.

A presumptive diagnosis was made by the pulmonary consult team based on history, and a diagnostic procedure was performed to rule out other possible etiologies.

*Protocol prepared by J. David Kay, MD*

## Department of Internal Medicine Clinicopathologic Conference



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## A 32 Year Old Woman with Hemopneumothorax & Recurrent Pleural Effusions

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Discussant: **Stephanie Call, MD, MSPH**  
Associate Professor of Internal Medicine  
Director, Internal Medicine Residency Program

Radiologist: **Tony Moore, MD**  
Resident, Department of Radiology

Pathologist: **Dan Klink, MD**  
Resident, Department of Pathology