

## Case 2

Pt is a 26 year old female that presents after intense persuasion from her family with the complaint of “sick” for 15 days. When you ask her to explain she says she’s had a fever for 5 days (101 degrees), been tired, and having difficulty getting food down because the food gets stuck in her throat, and keeping it down because she keeps feeling nauseated. She says all of this started a few days after the family went on a boat trip, and she is fairly certain that her husband poisoned her food since she “didn’t look good enough in her bathing suit.” Additionally, her joints have been painful and swollen. This occurred first in her right MCPs (metacarpals) and then her left knee. She has taken ibuprofen, which has helped some. She has been sleeping 10 hrs at night, but the fatigue has not improved.

### **What broad things could be causing her problems?**

This is a patient with multiple complaints that are involving her overall energy level, joints, gastrointestinal tract, and mental status that have occurred in a sub acute time course. Your first reaction might be to disregard her as a psychological problem. You must rule out everything else first though. That said, start to think about what things can cause multi-system problems. Infections and inflammatory states, connective tissue diseases, malignancy, and a multitude of syndromes that you will learn with experience.

An infectious etiology, mononucleosis, HIV, or hepatitis C, disseminated gonorrhea. A connective tissue disease like rheumatoid arthritis (RA), systemic lupus erythematosus (SLE), scleroderma. Additionally, fibromyalgia, neoplasm, cholecystitis, thrombotic thrombocytopenic purpura (TTP), etc. must be considered.

### **What review of systems would you like to know?**

Any change in weight, rash or jaundice, cough, shortness of breath (SOB), snoring at night nausea, vomiting (if yes, what does it look like), abdominal pain, GERD (gastroesophageal reflux disease) symptoms, diarrhea or constipation, myalgias, Raynaud’s symptoms (white- blue- then red fingertips), weakness, numbness, or tingling, easily bruising or bleeding, vaginal discharge, evidence of psychosis (paranoia, visual or auditory hallucinations), (SIG E CAPS- sleep, interests, guilt, energy, concentration/memory, affect/appetite, psychomotor changes, suicidal/sexuality/somatic symptoms)

In addition to the HPI complaints, the patient has had she lost 5 lbs in the last month, has this sunburn on her nose and cheeks that isn’t going away. She also tells you that her husband has been trying to kill her, and that’s making her feel uncomfortable.

### **What other history would you like to know?**

Past medical history, Past surgical history, Smoker, Drinker, Work type, Marital status, Travel history, LMP (last menstrual period), Medications, Allergies.

Past Medical History, Past Surgical History: none

LMP: currently on period

Social History: no smoking, drinking, illicit drug use, married, no high risk sexual behavior

Travel History: none

Medications: none...no use of lupus like drugs (procainamine, hydralazine, isoniazid, methyldopa, quinidine, and chlorpromazine)

Allergies: none

### **What physical exam finding would you look for?**

Start with the vital signs. Is the patient febrile, tachycardic, tachypnic, hyper or hypotensive, hypoxic? The patient's overall color (looking for a rash, purpura, pale or jaundice), any rubs, gallops, or muffled heart sounds? Does the patient have rales, crackles, wheezes, or decreased breath sounds? Is the belly tender? Is the spleen enlarged? Hypo or hyperactive bowel sounds?

With this patient also check for oral lesions, tonsillar exudates, rashes, or plaques since she was having difficulty swallowing. It would be throughout to also check for goiter (possible mechanical obstruction?) and swollen cervical lymph nodes. Also remember to examine her joints. Are the affected joints symmetrical, red, hot, warm, swollen, tender to palpation? Is a fluid wave present? Are there nodules or any other deformities?

Finally, since the husband reportedly tried to kill the patient, but also wanted her to seek help for her complaints, a brief psychological assessment would be appropriate...

Exam reveals a thin African American female with a temperature of 102 degrees, blood pressure of 160/97, otherwise normal vital signs who seems inappropriately paranoid and in moderate distress. The patient had a erythematous (red), non- raised rash that covers the bridge of her nose and her cheeks, and it was painful and pruritic (itchy). No oral lesions. The patient had right upper quadrant pain to palpation. Her left knee was swollen, but no other joint deformities were seen.

### **What other laboratory tests/ imaging studies would you order in a febrile patient with a malar rash, weight loss, fatigue, abdominal and joint pain with some neurological changes?**

Complete Blood Count (CBC) – looking for leukocytosis, anemia, and thrombocytopenia  
Complete Metabolic Profile (CMP)- looking for electrolyte imbalances renal and liver function

Urinalysis (U/A)- looking for leukocyte esterase, nitrites, proteinuria, and casts

Sedimentation Rate (ESR) and C-reactive Protein (CRP)- markers of inflammation in many diseases

Chest X- Ray (CXR)- looking for signs of infection

HIV 1 and 2- detect antibodies to HIV 1 and 2

Hepatitis B and C panels- chronic hepatitis can present in many ways including fatigue and abdominal pain.

Lipase- In the past amylase and lipase were order when pancreatitis was suspected. It is now agreed that checkin lipase only is sufficient.

Anti- heterophile antibody- positive in mononucleosis

Anti- Nuclear Antibody (ANA)- sensitive, but non-specific marker for SLE. 95% of lupus patient's have this antibody.

Anti- Double Stranded DNA (anti-ds DNA)- 70% of lupus patient's have this antibody. Very specific for lupus, esp if there is renal involvement.

Anti- Sm, Anti- SSA/Ro, Anti- SSB/La, and Anti- ribosomal P protein antibodies- Less common markers of SLE.

Anti- phospholipid antibody and Anti- cardiolipin antibody-

Complement levels (C3, C4, and CH50)- can be low in congenital deficiencies or SLE.

Low C3 is a marker for lupus nephritis.

VDRL/RPR- Classically positive with syphilis

aPTT, PT/INR- liver disease and other systemic diseases can effect coagulation

Abdominal U/S- could see evidence of gallstones and gallbladder wall thickening

Echocardiogram (ECHO)- endocarditis can present with fever

Knee X-Ray- looking for erosion or deformities

Blood culture- looking for systemic infection as source of fever

Lumbar puncture (LP)- Changes in mental status and fever and suspicious for meningitis. SLE

Skin Biopsy- looking for rash etiology

Renal Biopsy- looking for evidence of nephritis or nephrotic syndrome

Your patient's CBC was normal. Her AST and ALT were elevated as is often seen in patient's with SLE taking NSAIDs. Her U/A showed 3+ proteinuria and tubular and granular casts. SED rate was greater than 100. VDRL/RPR was positive. Lipase was normal. CXR, Abdominal U/S, ECHO, and blood cultures were normal. HIV and hepatitis panels were negative except Hep B Surface Antigen Antibody, but the patient was previously vaccinated, so this is normal. ANA and Anti- ds DNA were positive. C3 level was low. aPTT was normal. Knee XR did not reveal any erosion or deformities, as is often the case with SLE induced arthritis. LP reveal non-diagnostic elevations in cell and protein count and decrease in glucose. Skin biopsy of rash showed inflammatory cells at the junction of the dermis and epidermis. Renal biopsy showed sclerosing lesions consistent with diffuse glomerulonephritis.

### **What is the diagnosis?**

Systemic Lupus Erythematosus, SLE. This is a multi- system disease that can present is multiple ways. It is considered a result of autoantibodies and circulating immune complexes that create a systemic inflammatory state.

What you should walk away with from this case

1. Because lupus is a multi- system disease it can effect cardiac, renal, pulmonary, skin, central nervous system, gastrointestinal, skin, and general constitution.

2. In order to diagnose SLE a patient should have at least 4 of the following criteria. malar rash, discoid rash, photosensitivity, oral ulcers, arthritis, serositis, renal disorder, neurologic disorder, hematologic disorder, immunologic disorder, antinuclear antibody.

3. Lupus is much more prominent in women than men (9 out of 10)

4. African Americans are more susceptible than Caucasians

5. The exact cause of lupus is unknown.

#### Treatment Summary

1. Corticosteroids

2. immunosuppressive agents

3. Hydroxychloroquine

4. NSAIDs

5. Specific management of specific problems (ex/ dialysis and renal transplant for renal failure)