**Introduction**

- Erythema Nodosum Leprosum is an immune mediated complication of Leprosy that presents with inflammatory skin nodules and systemic symptoms.
- Early diagnosis and treatment is critical to prevent paralysis and permanent deformity that may be caused by the associated inflammation.

**Case Description**

A 23 year old woman originally from Micronesia presented to the emergency department with 2 days of fever, malaise, headache, sore throat, nasal congestion/pain and rhinorrhea. She carried a diagnosis of lepromatous leprosy and had a history of medication non-adherence. Most recently she was restarted on antibiotic therapy 1 month prior after a treatment gap of 5 months. In the ED the patient met SIRS criteria with fever of 38.2°C, tachycardia to the 110s and leukocytosis to 13.2. Other labs were unremarkable. The patient improved with supportive care and was discharged home with the diagnosis of viral URI.

Five days later the patient returned to the ED with progressive systemic complaints and the acute eruption of a painful rash. On exam she was afebrile with normal vital signs. She appeared uncomfortable. Her nasal mucosa was edematous and erythematous. Her skin was notable for tender erythematous subcutaneous nodules on her face, arms and legs (see pictures below). Her hands, wrists and legs were swollen and movement was limited secondary to pain. Leukocytes were increased to 19.9. Blood cultures were negative. A chest x-ray, CT head and CT sinuses were without acute disease. The patient was admitted to the general medicine wards.

**Case Resolution**

The patient had been admitted 1 year prior with a very similar presentation of systemic symptoms and painful rash and diagnosed with erythema nodosum leprosum (ENL) confirmed via skin biopsy (see pictures below). On this admission, both the dermatology and infectious disease consult teams felt this presentation was consistent with another ENL reaction in the setting of recently restarting antibiotic therapy. Repeat skin biopsy was not performed. In addition to continuing her outpatient regimen of dapsone, clarithromycin and clofazamine, she was started on prednisone 60mg daily. She symptomatically improved and was discharged home on hospital day number 3.

**Discussion**

- Leprosy (Hansen’s Disease) is caused by the acid-fast bacillus Mycobacterium leprae. Early diagnosis and a full course of antibiotic treatment (1-2 years) are curative and critical for preventing lifelong neuropathy and disability.
- While it remains mostly a disease of developing countries, according to the Registry of the National Hansen’s Disease Programs, 205 new cases were detected in the United States in 2010.
- Immunologic reactions are systemic inflammatory complications that affect 30-50% of patients. They most commonly occur after initiating treatment, but can manifest at any point in the disease process.
- ENL (also called type 2 reaction) occurs in patients with lepromatous disease.
- The mechanism of this reaction remains elusive, but may involve immune complex deposition.
- Depending on the severity, ENL reactions can mimic disease progression, new onset neuropathy, drug allergy or even sepsis.
- The natural course is generally 1-2 weeks, and treatment is initiated to prevent irreversible nerve damage.
- Both prednisone and thalidomide are effective treatments. Thalidomide is contraindicated in women of childbearing age.
- The National Hansen’s Disease Clinical Center is located in Baton Rouge Louisiana and provides free consultations for physicians and free antibiotics and educational materials for patients.

**References**

www.hrsa.gov/hansensdisease/clinicalcenter.html