**February 2015 StuNews Case Vignette**

**History of Present Illness**: A 50-year-old woman who works as an administrative assistant has had persistent hand pain and stiffness for 3 months. Two weeks ago, her right wrist became so inflamed that it significantly impaired her ability to type and perform daily tasks around the home. She has self-medicated with ibuprofen and found some relief of pain. There is no history of recent trauma.

**Medical History**: Herniated cervical disk requiring fusion at the C6–C7 level. Total abdominal hysterectomy 1 year ago (complicated surgery, required the provision of blood products). Seasonal allergies. No history of heart disease or gastrointestinal (GI) bleeding

**Social History:** Married with two children. Nonsmoker, light social drinker

Current Medications: Ibuprofen 400 mg three times daily for the past 2 weeks; loratadine 10 mg once daily as needed; calcium carbonate 500 mg three times daily with meals x 2 years

**Allergies:** No drug allergies

**Vital Signs:** Blood pressure (BP) 135/80 mm Hg; heart rate (HR) 68 beats/minute; weight 73 kg; height 65 inches (165.1 cm)

**Laboratory Values:**

Rheumatoid factor 1/80 titer; erythrocyte sedimentation rate (ESR) 44 mm/hour;

White blood cell 6.4 x103; hemoglobin 11.9 g/dL; hematocrit 33.6%; platelets 313,000/μL; ferritin 200 ng/mL

Sodium 141 mEq/L; Potassium 4.7 mEq/L; Chloride 99 mEq/L; HCO3 22 mEq/L; BUN 23 mg/dL ; Serum creatinine 1.6 mg/dL; ALT 63 U/L ; AST 60 U/L

**Procedural Data:** None

**Other Data**: On examination, the MCP (metacarpophalangeal) joints were swollen and very tender to palpation, and the right wrist plus the left third and fourth PIP (proximal interphalangeal) joints were swollen. There was also some tenderness in the metatarsal joints of the feet. No subcutaneous nodules were present.

The patient is given a diagnosis of early rheumatoid arthritis (RA).

***Question 1***

Which of the laboratory values for this patient are most suggestive of a poor long-term RA prognosis?

1. Elevated ESR
2. Elevated SCr
3. Low hemoglobin
4. Rheumatoid factor titer level

Answer: 4. Rheumatoid factor titer level

Rationale: The negative prognostic factor is high titers of positive rheumatoid factor. The ESR can be used to follow acute disease activity but not prognosis. Creatinine and hemoglobin are also not useful for prognosis.

Citation: Singh JA, et al. 2012 update of the 2008 American College of Rheumatology recommendations for the use of disease-modifying antirheumatic drugs and biologic agents in the treatment of rheumatoid arthritis. Arthritis Care Res 2012;64:625-39.

***Question 2***

Her physician wants to initiate a disease-modifying antirheumatic drug (DMARD), but the patient notes that she is leaving in less than 1 month for a 9-week dream trip across Europe with her husband. Because follow-up medical care could be problematic, which DMARD is the best choice for her at this time?

1. Hydroxychloroquine
2. Methotrexate
3. Tofacitinib
4. Leflunomide

Answer: 1. Hydroxychloroquine

Rationale: Hydroxychloroquine needs no routine laboratory monitoring. A baseline eye examination should be scheduled, but it does not need to be repeated for 5 years. Tofacitinib, a new drug with less well-defined risks, requires monitoring of CBC (complete blood cell count) and lipids, as well as alertness for infection. Methotrexate and leflunomide require monitoring of transaminases (problematic with already slightly elevated levels).

Citations: Tofacitinib (Xeljanz) for rheumatoid arthritis. Med Lett 2013;55:1-3.

Bombardier C, Hazlewood GS, Akhavan P, et al. Canadian Rheumatology Association recommendations for pharmacological management of rheumatoid arthritis with traditional and biologic disease-modifying antirheumatic drugs. Part II: safety. J Rheumatol 2012;39:1583-602.

***Question 3***

What is the most appropriate adjustment to her NSAID (nonsteroidal anti-inflammatory drug) therapy?

1. Change from ibuprofen to celecoxib 100 mg twice daily.
2. Increase ibuprofen to 600 mg four times daily.
3. Maintain the dose, but add a PPI.
4. No change in ibuprofen is necessary or desirable.

 Answer: 2. Increase ibuprofen to 600 mg four times daily.

Rationale: The patient’s ibuprofen should be raised to an anti-inflammatory dose until the disease is controlled with disease-modifying therapy. Changing to celecoxib would be of no benefit, and adding a PPI for GI protection is not indicated at this time.

Citation: Bykerk VP, et al. Canadian Rheumatology Association recommendations for pharmacological management of rheumatoid arthritis with traditional and biologic disease-modifying antirheumatic drugs. J Rheumatol 2012;39:1559-82.

***Question 4***

One month after returning from her trip, the patient’s physician added sulfasalazine to her hydroxychloroquine dose because her symptoms were poorly controlled. Three months later, she returns for a follow-up, and her symptoms are moderate to high, as assessed by the Disease Activity Score. The physician decides to begin etanercept therapy. In addition to a tuberculosis panel, which test should be considered before beginning this therapy?

1. Hepatitis B panel
2. Antinuclear antibodies
3. Echocardiogram
4. Neutrophil count

Answer: 1. Hepatitis B panel

Rationale: Although baseline tuberculosis testing is indicated, it is less commonly appreciated that viral hepatitis screening is also generally recommended so that reactivation of chronic infection does not occur. The patient received blood products during a past surgery. Antinuclear antibody testing has sometimes been suggested, but it is not considered mandatory. A neutrophil count is not needed routinely. Although cases of heart failure have been reported, baseline echocardiograms are not routinely recommended, particularly in this patient with no relevant cardiovascular history.

Citation: Bykerk VP, et al. Canadian Rheumatology Association recommendations for pharmacological management of rheumatoid arthritis with traditional and biologic disease-modifying antirheumatic drugs. J Rheumatol 2012;39:1559-82.

***Question 5***

**Before** initiating etanercept, which vaccine regimen should be recommended for this patient?

1. Intramuscular influenza only; her current non-biologic DMARD use is a contraindication to additional vaccinations
2. Intramuscular influenza and pneumococcal vaccinations
3. Intramuscular influenza, herpes zoster, and pneumococcal vaccinations
4. Intramuscular influenza, herpes zoster, human papilloma virus, and pneumococcal vaccinations

Answer: 3. Intramuscular influenza, herpes zoster, and pneumococcal vaccinations

Rationale: The 2012 guidelines recommend vaccinations with intramuscular influenza, herpes zoster, and pneumococcal for patients already receiving non-biologic DMARD therapy. Pneumococcal vaccination is recommended for all patients with RA, whereas other vaccinations are based on age and risk. The patient is 50 years of age and meets the expanded age criteria (ages 50–59) for herpes zoster vaccination. The patient should receive annual intramuscular influenza vaccinations. The patient does not meet CDC guidelines for human papilloma virus as she is past the maximum recommended age of administration (26). Current non-biologic DMARD use alone is not a contraindication for additional vaccinations.

Citation: Jasvinder AS, Furst DE, Bharat A. 2012 update of the 2008 American College of Rheumatology recommendations for the use of disease-modifying antirheumatic drugs and biologic agents in the treatment of rheumatoid arthritis. Arthritis Care Res 2012;64:625-39.