**CASE HISTORY**

- **21 yo Black Female Track and Field Multi athlete with c/o painful lumps in both armpits**
- **Day 3 of symptoms, Team Physician contacted by Athletic Trainer**
- **Presumptive Lymphadenitis**
- **Doxycycline 100mg po bid prescribed empirically**
- **Day 4 developed fever, Tmax 100.5**
- **Increasing pain, not improved with ibuprofen**
- **Athlete presented to the ER; Took first dose of doxycycline in the waiting area**
- **ER diagnosed: Bilateral Axillary Abscesses**
- **Prescribed:**
  - Clindamycin 450mg po tid; Stop Doxycycline
  - Ketorolac 40mg IM x 1
- **Day 5 seen by Team Physician in clinic**
- **Pain 7/10 both axillae; unable to lower arms completely**
- **No further fevers**
- **Denied night sweats, unexplained weight loss or other lymphadenopathy**
- **PMHx:** Iron Deficiency Anemia, Vitamin D Insufficiency; Sickle Cell Trait Negative (Mandatory NCAA screening)
- **PSHx:** Inguinal hernia repair as a child
- **Meds:** Ferrous Gluconate 324mg po bid, q other day
- **Family History:** No known hemoglobinopathies; Mother denied night sweats, unexplained weight loss or other lymphadenopathy
- **Social:** No tobacco, drugs
- **Fam Hx:** No known hemoglobinopathies; Mother unsure of family ancestry details
- **ROS:** No history of jaundice, splenomegaly, cramping with exertion

**INITIAL PHYSICAL EXAMINATION**

- **Glucose 100.5**
- **Shear force palpation:**
  - Bilateral axillary lumpy, firm, tender masses
  - Supraclavicular, epitrochlear, submandibular or inguinal; no splenomegaly
  - Skin: No discharge from nodes; No erythema of axillae
  - MSK: Unremarkable

**LABWORK AND IMAGES**

- **Hemoglobin Electrophoresis**
- **Typical Peripheral Smear**
- **Comment from Lab Technician:** “The red blood cells look like they are trying to sickle.”

**DISCUSSION/SIGNIFICANCE**

- **Hemoglobin C:**
  - One Hgb C gene from one parent and one Thalassemia gene from the other parent (see figure)
  - Mild to moderate anemia
  - Typically does not cause serious health problems
  - Low MCV and low Hemoglobin always seen
  - Mutations seen in hemoglobinopathies protect carriers from malarial diseases
  - Preconception genetic counseling is important for those with hemoglobinopathies.
  - Any offspring of this individual will inherit either a gene for Hgb C or for Beta-thalassemia.
  - If her partner has abnormal hemoglobin the offspring will have a high likelihood of having abnormal hemoglobin rather than just being a carrier.
  - Those at risk of being carriers for beta-thalassemia include populations in the Mediterranean basin, West Africa, and South Asia.
  - Prior to any decision regarding conception, she should strongly consider partner carrier testing.

**FINAL DIAGNOSIS**

**Bilateral Axillary Lymphadenitis**

**with incidental discovery of Hemoglobin C / β-Thalassemia**

**CLINICAL COURSE**

- **While reviewing the peripheral smear, the lab technician noted multiple atypical shaped red blood cells with some appearing to almost sickle.**
- **The team physician was contacted to ask if the patient has Sickled Cell Trait; screening was negative during her PPE**
- **Hemoglobin Electrophoresis was then ordered**
- **Day 8: pain resolved, Lymphadenitis resolving**
- **Day 13: Lymphadenitis clinically resolved**
- **Patient counseled regarding the new hemoglobinopathy dx**

**DIFFERENTIAL DIAGNOSIS**

- Bilateral Axillary Lymphadenitis
- Methicillin Resistant Staph Aureus Infection
- Lymphoma
- Hidradenitis Suppurativa
- Bilateral Axillary Abscesses

**REFERENCES**

7. StatPearls image of State Health Services, Newborn Screening FACT Sheet. [HbCB Disease].