Introduction:

Welcome to CUGH's bi-weekly clinical case-series, "Reasoning without Resources," by Prof. Gerald Paccione of the Albert Einstein College of Medicine. These teaching cases are based on Prof. Paccione's decades of teaching experience on the medical wards of Kisoro District Hospital in Uganda. They are designed for those practicing in low resource settings, Medicine and Family Medicine residents, and senior medical students interested in clinical global health. Each case is presented in two parts. First comes a case vignette (presenting symptoms, history, basic lab and physical exam findings) along with 6-10 discussion questions that direct clinical reasoning and/or highlight diagnostic issues. Two weeks later CUGH will post detailed instructors notes for the case along with a new case vignette. For a more detailed overview to this case-series and the teaching philosophy behind it, see Introduction to "Reasoning without Resources". Comments or question may be sent to Prof. Paccione at: gpaccion@montefiore.org

Note: If you would like to be notified when a new case is posted (along with instructor notes for the previous one), send your e-mail to Jillian Morgan at jmorgan@CUGH.org.

About the Author:

Dr. Gerald Paccione is a Professor of Clinical Medicine at the Albert Einstein College of Medicine in the Bronx, New York. His career has centered on medical education for the past 35 years – as a residency Program Director in Primary Care and Social Internal Medicine at Montefiore Hospital, and director of the Global Health Education Alliance at the school. He has served on the Boards of Directors of Doctors for Global Health, Doctors of the World USA, and the Global Health Education Consortium. Dr. Paccione spends about 3 months a year in Uganda working on the Medicine wards of Kisoro District Hospital where he draws examples for the case studies.

Gerald Paccione, MD
Professor of Clinical Medicine
Albert Einstein College of Medicine
110 East 210 St., Bronx, NY 10467
Tel: 718-920-6738
Email: gpaccion@montefiore.org

CASE 30 – CHEST PAIN, FOOT PAIN, & SHOCK

A 35 year old mother of six children, separated from her husband who lives in Kampala, is brought to Kisoro Hospital at 7:00 PM, carried hurriedly to a ward bed by her friends.

She is breathing rapidly and complaining of severe left chest pain under her left breast, increased with breathing and lying down. The pain began gradually in the morning but has steadily gotten worse. She's had a dry cough without sputum since yesterday, and has not noted fever. There's no history of trauma or similar pain before, no vomiting, diarrhea, or black/bloody stools.

Physical Exam:

Thin, acutely ill, in obvious respiratory distress breathing rapidly and shallowly - panting, sitting upright.

Vital Signs: BP unattainable HR 150 R 60 T 97 oral and axillary
Skin: no rashes
Mouth: no thrush
Neck: no JVP or HJR visible while lying flat;
Chest wall: significant pain elicited with firm palpation over the anterior left chest wall.
Lungs: trachea midline
clear to auscultation and percussion except on careful auscultation (repeatedly) in various positions, a short "scratchy" crackle is heard variably on inspiration under the left breast when sitting, not when supine; the scratchy sound vanished with breath holding
Heart: tachycardic at ~150, regular
PMI: neither visible nor palpable, lying or sitting
S1 S2 normal, no gallups, murmurs or rubs audible
Abdomen: benign, without hepato-splenomegaly, masses or tenderness; rectal, no stool in vault.
Extremities: no leg edema or calf tenderness; hands and right foot cool to touch;
left foot: large amount of dorsal swelling with pus oozing from crack in the skin, warm, tender ball of foot

Additional history *post-exam* (after seeing foot):

She was otherwise in her usual state of health without weight loss or night sweats until a week ago when digging barefoot in the fields, she cut her foot on a rock. The foot has grown increasingly painful and swollen.

1. **What is the "frame" of this case (i.e. the key clinical features the final diagnosis must be consistent with)?**

2. **What does the nature of the pain signify? Explain.**

3. **Why was so much attention devoted to a rather unremarkable chest exam, and what was the significance of the findings by both palpation and auscultation?**

4. **How do you differentiate the specific *tissue-of-origin* of the mono-phasic scratchy chest finding on PE?**

5. **a) What "test" can readily be done to help clarify the diagnosis?**
   b) What potential test findings, observed in this patient, would be specific for the one cause of a mono-phasic scratchy chest exam sound that you are looking for with this test?
   c) What is the differential diagnosis that test finding?
   d) What is the apparent inconsistency between the exam and the test findings and how can it be explained?

6. **a) What is the (etiologic) differential diagnosis of this disease process in Africa and how does it contrast with the differential diagnosis in developed nations?**
   b) How would the differential be influenced if she were HIV (+)?

7. **What is the *emergency* in this case? What is its differential diagnosis and what are some pros and cons for each possibility?**

8. **What treatment should be emergently administered?**

9. **If the blood pressure becomes measurable, what physical exam maneuver is appropriate?**

10. **What is the physiologic and/or anatomic origin of the multi-phasic sound ausculted after the patient was hydrated?**

11. What was the most likely *etiologic* diagnosis for the pathologic process in this patient? Explain your reasoning.

12. What is the appropriate treatment, and what happened in Kisoro?