Introduction:

Welcome to the 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 4-10 discussion questions that direct clinical reasoning and/or highlight diagnostic issues. A month 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

About the Author:

I'm a Professor of Clinical Medicine at the Albert Einstein College of Medicine in the Bronx, New York, where my career has centered on medical education for the past 40 years – as a past residency Program Director in Primary Care and Social Internal Medicine at Montefiore Hospital, and global health advisor and program leader at the school. I've served on the Boards of Directors of Doctors for Global Health, Doctors of the World USA, and the Global Health Education Consortium. I spend about 3-4 months a year in Uganda working on the Medicine wards of Kisoro District Hospital which, like most hospitals in the world that serve most of the world's population, has (almost) no resources. "At the bedside", I teach Internal Medicine residents and medical students how to assimilate the elements of history, physical exam and epidemiologic probability into a diagnostic impression that, even without definitive testing, can lead to appropriate therapeutic strategies in the field.

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 67: The Muffle of an Oft-Forfeited Cure

A 32 year old male, a farmer from a village around Kisoro, presents with 2 months of increasing weakness and weight loss, with recent development of shortness of breath. He was well until about 2 months ago when he began to get fatigued before finishing a day’s work. He lost his appetite and started losing weight, developing an intermittent dry cough without sputum and occasional diarrhea without blood or mucous. He experienced neither fevers nor sweats. About 4 weeks ago, he noticed lumps growing in his neck, non-painful and non-tender, on both sides. Around that time, his legs began to swell at the end of the day. Over the past 2 weeks he’s gotten progressively more short of breath while walking home from the fields, and his belly has become slightly distended. He has had no problems sleeping or breathing while lying flat and has had no sweats at night. His mild cough has persisted without sputum but has not worsened. He has had no chest pain.

He has been healthy his whole life, without chest or joint pains as a child or breathing difficulties. He’s the father of 3 healthy children aged 2 to 6 years old and lives with his family. His wife is healthy, and digs. He previously worked as a migrant farmer around Kampala, but not since marriage 7 years ago and he has had no extramarital affairs.

Physical Exam:

In no distress, sitting up in bed, lumps visible in his neck
BP: 110/70     HR 115     T: 97.9 p.o.     R: 24, non-labored
Skin: normal, without rash
Conjunctiva: normal, non-icteric, no petechiae; fundi: benign, no papilledema or exudates
Mouth: no thrush or violaceous plaques
Neck: lymphadenopathy bilateral submandibular, posterior cervical, supraclavicular, firm, non-tender, discrete, not matted, 1.5-2 cm; no goiter; trachea midline
    JVP sitting to 1-2 cm below jaw, diffuse triphasic pulsation, no cannon waves seen; +HJR
Lungs: left side dull to percussion with decreased breath sounds ¼ up, egophony above dullness
    No crackles, right lung clear
Cardiac: PMI palpable and visible 2 cm lateral to mid-clavicular line, 2 cm in diameter,
    no RV lift nor LV heave;
    heart sounds diminished, S1, S2 heard, without S3, S4 in left lateral decubitus position;
    bi-phasic near-continuous sound heard at the apex and left sternal border …
Abdomen: slightly distended when lying supine; +shifting dullness; bowel sounds normal
    non-tender without rebound or percussion tenderness except over RUQ
    RUQ tenderness to percussion and gentle punch; liver percussed 13 cm in span, 7 cm
    below costal margin
Extremities: +2 pitting edema to mid-shin bilaterally; warm peripherally
Neurologic: intact mental status, cranial nerves, motor, sensory, reflexes, cerebellum, gait
1. What is the “frame” of this case from the history and physical exam? (i.e. the key clinical features the final diagnosis must be consistent with), and the clinical significance of each feature noted?

2. What is the differential diagnosis of a “near-continuous sound” at the cardiac apex, and how do the abnormalities mentioned produce the sound described?

3. By physical exam, how are the diagnostic possibilities differentiated?
   Which is most likely in this patient from the clinical history? Why?

In this patient the near-continuous biphasic sound was indeed “scratchy”, like rubbing 2 sheets of sandpaper together, and “close to the ear” as if originating right beneath the stethoscope. It also became louder and longer when the patient sat up and inhaled, and one component almost disappeared in the right lateral decubitus position.

4. a. Disease of which tissue is causing the near-continuous heart sound?

   b. Which findings are consistent with this pathologic process in this patient?

   c. The absence of which symptoms and signs auger against this process, and how strongly?

   d. What is the principle pitfall made by bedside clinicians considering this diagnosis?

   e. Explain the importance of the near-continuous heart sound vis-à-vis the diagnosis and management of this patient?

   f. How commonly is this auscultation finding heard in patients with this disease in Africa? What are the most consistent/reliable findings that should alert the clinician to think of this disease?

5. Which important Physical Exam signs (which should be routinely assessed in every patient with dyspnea and/or edema) are not reported in the vignette above?

In this patient, the heart was percussed 12 cm. from the mid-sternum, and dullness extended to the right of the sternum. He had a pulsus of 7-8 on multiple determinations.
6. Which social and epidemiologic realities of Africa influence consideration of the likely etiology of the disease process (“process X”) affecting this patient?

7. a) What is the (etiologic) differential diagnosis of Process X in Africa and how does it contrast with the West?
   b) How would the differential be influenced if he were HIV(+)?

8. How does this patient’s clinical presentation influence your assessment of the likely etiology of Process X?
   a. What are the most powerful “positive” symptoms/signs that support your lead diagnosis?
   b. The absence of which symptoms and signs auger against your lead diagnosis and how strongly?

9. a) How is an etiologically definitive diagnosis of Process X made?
   b) What tests can be done to support the etiologic diagnosis (called “Disease X”)?

10. a) What are the 3 pathologic stages of Disease X and how common is each stage?
    b) Which Physical Exam signs help differentiate the stages, and how accurate are they?

11. What is the most dangerous early complication of Disease X, and how is it diagnosed at the bedside?

12. What is the late complication of Disease X, how frequently does it occur, and can it be prevented?

13. Which other disease can be a major source of diagnostic confusion with the late complication of Disease X in East Africa/Uganda?

14. What is the prognosis and treatment of the patient in the vignette?