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.

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CASE 29 – BREATHLESS AND PREGANT

A 22 year old woman, married for 2 years and pregnant 7 months with her first child, began experiencing significant dyspnea on exertion about 2 months ago. Since then her dyspnea progressed such that recently she's had to sleep leaning against the wall. Over the past week she's awoken nightly with dyspnea relieved only by sitting bolt upright for ~15-20 minutes, her ankles have become swollen, and now she gets breathless simply walking around her one room house. She has felt "hot" intermittently, and sometimes coughs with clear sputum that's occasionally blood-streaked.

She remembers no lengthy illnesses as a child, but did lag behind her teen-age friends when running and she fatigued more easily e.g. stopping to rest when walking over the hills to the Kisoro market from her village. She remembers when she was younger bouts of coughing up "pure blood" after exertion, but not for the last few years. She's had pneumonia once about 2 years ago, treated with antibiotics, and is HIV negative. She has felt her heart "racing" for 10-30 minutes on many occasions, often beginning suddenly at rest, but never sought medical attention for it. Twice, when the heart racing was prolonged for more than a half hour, she was very short of breath - which dissipated when her heart slowed abruptly. She's had no weight loss or night sweats.

Physical Exam: A young slight woman sitting upright breathing rapidly, surrounded by mother, father, husband.

BP 90/50; HR 120 regular, with premature contractions; R 36; T 99 oral

mouth: no thrush, normal dentition, no petechiae; conjunctiva normal without pallor;

neck: JVP: ↑ 12 cm above angle sitting up; + HJR (>4 cm, maintained for 10 seconds); Θ Kussmaul sign; thyroid palpable, soft, normal size/texture without bruit

lungs: good air movement, rales bilaterally half way up lung fields; no wheezes heard;

heart: forceful RV lift, parasternal; systolic retraction in 5th ICS, MCL, preceded by impulse in 3rd ICS, MCL

↑↑'d S_1; loud P2 heard best inspiration;

"triple sound" around S_2 at apex, best heard with diaphragm

Gr 1-2/6 holosystolic murmur, medium-pitched, at apex → radiating to axilla

Gr 2/6 mid-systolic, crescendo-decresendo murmur upper left sternal border, no radiation

abdomen: distended normal, 7 month gestation; no hepato-splenomegaly or ascites;

extremities: +1-2 edema to mid-shin bilaterally, with no difference in calf circumferences.

1. **What is the frame of this case (i.e. the key clinical features the final diagnosis must be consistent with) from the <u>history</u>?**

2. **Dysfunction of which organs (or systems) are potential causes of shortness of breath in pregnant women, especially in Africa? Explain.**
   Which is most likely in this patient and why?

3. **How could pregnancy be potentially related to new-onset heart failure? Explain.**

4. **What are the top 4-5 diagnostic considerations for new-onset CHF in a young woman in Uganda?**

5. **Of these which are *almost* ruled out by the "timing" features of the history?**

6. **What is the significance of the Physical Exam in this patient? Explain the significance of the most important 6-10 findings on exam (both positive and negative findings).**

7. **What was missed on PE?**
   What physiologic implications of *other* signs found on exam lead you to that conclusion?
   Why was the key diagnostic finding missed?

8. **What did the EKG and CXR show?**

9. **How would you treat this patient?**

10. **What is the relevance of Uganda or Africa in this patient's presentation?**