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 Katherine Unger at kunger@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 51 – Headache and Confusion

A 50 year old woman presents with increasing headache over 5 days and confusion for two days.

Hypertension was first noted 2 years ago when she suddenly lost vision in both eyes. In the hospital she recalls her blood pressure (BP) was "very high" although the records couldn't be located. She left the hospital on unknown medications after about a week. Although she regained some vision over time, she can no longer work as a seamstress. She attended the Chronic Care Clinic in Kisoro District Hospital for 2 months and then stopped coming because of distance, and presently she is not on medications for hypertension. Her HIV test was negative.

The headache was noted upon awakening 5 days ago and has slowly worsened since, although it seems to wax and wane. It is partially relieved by the ibuprofen she's been taking for the past 3 days. Her daughter says she has seemed a bit confused for the past 2 days, making non-sense remarks and laughing.

There is an unclear history of possible loss of consciousness about 3-4 years ago, but no prior history of headaches, transient loss of motor or sensory function, or chest pain. She has had no fever. Her father died with "swollen legs", her mother suddenly at age 65, and her 3 siblings are alive and living in Kampala. She's unaware of their medical history.

Physical Exam: In no distress, sitting in bed, well-nourished.

BP 240/190 right, 220/175 left; 5 min 200/160 right; 30 min 190/150 right; HR 70; T 97;

Eyes: no cataracts; acuity hard to measure due to difficulty understanding but seems poor
fundi: No papilledema appreciated, discs flat bilaterally; A/V ~0.4; increased tortuosity, ⊕ A/V nicking;
Left eye: flame hemorrhage, 1 disc distance, at 2:00; scattered hard exudates around macula on left;
Right eye: 2 dot hemorrhages, 4 and 7:00, ~ 2 disc diameters from disc; soft exudates at 11:00, 1 disc diameter from disc, ½ disc diameter in size;
mouth: no tooth tenderness to percussion, no thrush;
face: no sinus tenderness to percussion/palpation
Neck: no JVP or HJR; neck supple with full ROM; no LAD
Lungs: clear
Heart: sustained LV PMI/heave, ~ 2-3cm diameter, 5th ICS, 1 cm lateral to MCL;
loud S_4; "triple sound" ~S_1 heard in 4th ICS medial to MCL;
Gr1/6 short systolic ejection murmur;
Abdomen: no hepato-splenomegaly, tenderness or masses; rectal: brown stool, guaiac (-).
Extremities; pulses +2, no skin lesions, nails normal
Neurologic: Mental Status: looks distracted, oriented to name, place, but not month;
CN: intact, except bilateral visual acuity poor as noted;
Motor, Sensory, Cerebellum, Gait: normal
Reflexes: +2 throughout, except +3 knee jerks and ankle myoclonus bilaterally

1. **What is the probable (and most worrisome) diagnosis in this patient?**
   What is its pathogenesis?
   What else is in the differential and why are these less likely?

2. a) What differentiates "malignant" vs. "accelerated" hypertension, and a hypertensive "emergency" vs. "urgency"?
b) How would this patient be classified?
c) What utility do these classifications hold, and what observations need to be made for a complete assessment?

3. What is the significance of the following PE findings?

- **BP difference of 10-20/15-20 between arms**
- **BP falling with successive measurements**
- **normal teeth, sinuses**
- **fundi**
- **PMI: sustained LV PMI/heave, ~ 2-3cm diameter, 5th ICS, 1 cm lateral to MCL**
- **loud S_4; triple S_1 heard in 4th ICS medial to MCL**
- **Neurologic exam: orientation and lack of focality**

4. Which tests, available in most district hospitals in rural Africa, should be requested and why?

How would you interpret the following results in this patient?

- the urinalysis demonstrated many RBCs, no casts, and +2-3 proteinuria on dipstick with s.g. 1.020.
- the spun hematocrit was 32, and a smear showed normochromic, normocytic RBCs without evidence of fragmentation.
- EKG showed marked LVH with ST/T wave changes but no abnormal Q waves.

5. How would you treat this patient?
What short-term adverse effect can be expected with successful therapy?

6. Why "hypertension in Uganda"?
What additional social considerations apply to hypertension in Africa?