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.

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Case 65: Getting There Slowly, Strategy and Patience

A 25 year old woman is admitted to the hospital with 3 years of chronic diarrhea that intermittently responded to various treatments, but is now worse for 3 months.

She was in her normal fully functional state of health until about 2-3 years ago when she began to have an increase in the frequency of bowel movements (BM) from her usual 1-2 times per day to 3-5 times/day. The stools were soft-watery in consistency, without blood. She had intermittent crampy discomfort but otherwise little abdominal pain, and no weight loss or fever. She received unknown therapy and improved, for ~ 6 months.

Then about a year ago, the diarrhea returned 4- 5 times/day, with intermittent cramping pain sometimes waking her from sleep, with occasional blood in the stool, without mucous or tenesmsus. Three months ago she began to lose weight, feel weak, and stopped working in the fields. Pain and bloody stools increased. She was unsure of fever, but occasionally felt “hot”. She had no other symptoms such as cough, headache or joint pain. She was “dewormed” (again), and 6 weeks ago treated with metronidazole 500 mg a day for 5 days without response. An HIV test was done (her 4th since the beginning of the illness) – negative again. A Brucella antibody test returned a titer of 1:80, and she was given a diagnosis of Brucellosis and treated with Doxycycline (alone) for many weeks, without response.

She is a farmer from the area, with no exposure to lakes; is married with no children but has had 2 miscarriages; she “digs”, doesn’t own livestock and does not ingest raw milk or cheese.

Physical Exam:

Cachectic woman, lying in bed, appearing despondent.

BP 100/70; HR 87 RR 20 T: 97.5 oral

Skin: no rashes; nails normal
Eyes: non-icteric conjunctiva; mild pallor; fundi benign, without exudates/hemorrhages; no lid-lag
Mouth: no thrush or cheilosis
Neck: thyroid normal, no goiter; no lymphadenopathy; no JVP/HJR
Lungs: clear to auscultation and percussion
Cardiac: normal S1, S2;
Abdomen: scaphoid, no masses or distention; mild diffuse tenderness; no hepato-splenomegaly
Rectal: (tender, patient uncomfortable with exam); non-bleeding, non-thrombosed hemorrhoid seen;
Extremities: joints normal;
Neurologic: normal CN, mental status, motor, sensory, cerebellar, gait; no fine tremor
1. What is the “frame” of this case from the history (i.e. the key clinical features that the final diagnosis must be consistent with)? What is the clinical significance of each?

2. On admission, what overarching questions (related to the timing of her illness) complicate the construction of a “differential diagnosis” in this case?

Describe how you might go about constructing a differential and/or a diagnostic strategy.

3. Construct a “working” differential diagnosis and briefly indicate the principle pros and cons of each disease nominated.

4. What is the relevance of the Brucella test in this case?

5. What diagnostic strategy/testing would you pursue?
**In the hospital after admission:**

a) Microscopy of two stool samples was negative for ameba, giardia, and strongyloides.
b) The stool was observed to be soft-watery, with specks and streaks of blood.
c) Homespun “anoscopy” was performed with a lubricated plastic test-tube and a flashlight immediately after blood was seen in the fresh stool: it showed NO evidence of active bleeding from the external or internal hemorrhoids. Conclusion: blood is originating **not** from hemorrhoids but from the intestinal mucosal disease causing the pain and weight loss.
d) Temperatures were measured 3-4 times/day: a low-grade fever of 100.5 orally was noted the next day.
e) Empiric therapy with metronidazole 750 3x/d for a week was started, covering both ameba and giardia (and even C.Difficile).

Somewhat surprisingly, after 5 days of treatment with metronidazole the diarrhea significantly improved to 1-2 loose stools/day with occasional blood, but fevers of 101.5-103 daily (of which the patient was wholly unaware) were documented daily after the first days of treatment.

**What could have explained this response to treatment?**

Occasional abdominal pain persisted, no cough or sputum developed, the urinalysis was unremarkable, and the exam didn’t change.
A chest X-ray (for TB) was clear.
The next initially-planned empiric trial of albendazole for strongyloides was withheld given the fevers (which Strongyloides does not cause, unless in the context of hyperinfection). Instead, antibiotic therapy with ceftriaxone and erythromycin as empiric treatment of chronic salmonella or campylobacter infections was begun. After a week, there was no change in the fevers or in patient well-being.

**6. What is your next step?**

**7. How does the diagnosis, only apparent after correct empiric therapy was tried, explain the patient’s presentation and course of illness?**