



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 58: The Slow Decline

A 58 year old woman from Mutumbira village in the Kisoro district, a peasant and mother of a nurse at KDH, is admitted with increasing confusion and incontinence for weeks-months.

She was well and fully functional until about 3 years ago when she began to lose her appetite. Food tasted bland, and she lost weight. According to her daughter, within a year she became very weak, unable to dig, and “very wasted”, all clothes fitting loosely. She fatigued easily and was breathless on minimal exertion, and at times couldn’t get up from the toilet. A year later (two years prior to this admission) she was admitted to Kisoro District Hospital, noted to be very pale with a hemoglobin of 6g/dl, and transfused 2 units of blood (to a post-transfusion Hb of 9). At home she felt stronger and started to do some light work. She had never been told of anemia before (though never had blood tests), bore 3 children without complications, and could not tell the color of her stools since she used a pit latrine.

Despite albendazole, iron tablets and multivitamins, within 4 months she again became very weak and “pale”, now frequently bedridden, with intermittent sharp chest pains and new “sores” on her tongue (neither were further specified). She was re-admitted with a hemoglobin of 5 and again transfused 2 units. She felt stronger and wanted to go home but her daughter insisted that she live with her a while prior to her (daughter’s) departure for advanced nursing studies in Kampala. Under her watchful eye, her daughter thought she recovered more slowly this time, but after 4 months her mother finally got her wish to go home to her village, feeling “better”. Months later she was re-admitted for incapacitating weakness and was again re-transfused. Throughout, she noted no melena or blood in her stools, nor fever or sweats. Her menses had been normal, ended 8 years ago, and she had no vaginal bleeding since. She does not drink alcohol, and neither she nor her devoted husband had risks for HIV.

Three months post-discharge and 2 months prior to this admission, the patient developed confusion. She feared being seen, didn’t recognize people, refused to eat or drink, and was frequently found talking to herself alone. Her daughter returned from Kampala and immediately called a psychiatrist in the capital who ordered Amitriptyline 50 mg/day. However, after the first dose, the patient slept for 2 days and upon awakening refused to take any more. A month later she was totally bedridden because of weakness and inability to walk steady, and totally confused, refusing to and unable to remember eating or drinking. She began mindlessly picking at her bedding, feared noises, and felt that animals were coming to attack her. A couple of weeks after she became incontinent of both urine and feces and disoriented to place and time (hour, date and month), her family brought her to the hospital again for what they feared would be her terminal admission.

Physical Exam:

Middle-aged woman, looking older than her age, sitting, staring, in no distress, “pleasantly dazed”
BP: 126/75 lying to 98/70 on standing; HR 115 to 118; RR 20; T 97.0

Skin: normal, without rashes

HEENT: Eyes: PERRLA, EOM full; conjunctiva pale, non-icteric; fundi benign without hemorrhages, exudates or papilledema;

Mouth: tongue erythematous patches with linear ulcer on side, 2 cm x 0.4cm; no thrush;
Breath without musty or unusual odor; ENT: normal,

Neck: no lymphadenopathy, JVP 5 cm above angle of Louis; no HJR; thyroid palpable, normal;
Lungs clear to percussion and auscultation

Heart: PMI hyperdynamic, 1 cm lateral to MCL, 2 cm diameter; no RV lift; S1, S2 normal without S3, S4, or rubs; Gr 2/6 early peaking SEM LSB without radiation;

Abdomen: no hepato-splenomegaly, masses, tenderness; guaiac (-) brown stool; rectal tone decreased

Extremities: no edema, clubbing, pulses intact;

Neurologic: Mental Status: disoriented to time and place; unable to count to 10; recognizes daughter but not her friend, follows simple commands; 0/3 short-term memory

Cranial Nerves: intact II-XII;

Motor: 5-/5 diffusely;

Sensory: decreased vibration knees to feet with both 256 and 128 tuning fork, and fingers with 256 fork; proprioception diminished index and big toe on right, index toe on left; intact fingers;

Reflexes: + 2 upper extremities; +3 knees with myoclonus; absent ankle jerks bilaterally

Gait: unable/unwilling to stand; Romberg couldn't be tested, nor could Cerebellum be evaluated.;

1. What is the frame of this case by history (the key clinical features the final diagnosis must be consistent with)?

2. What are the most common causes of anemia in East Africa in women in their 50's?

3. What is the *differential diagnosis* of this patient's illness, and the *pros and cons* of each possibility? What's the *most likely diagnosis* and why?

4. Explain the *neurologic* and *oral examinations* in this patient (in light of the likely diagnosis).

5. How common is this disease in Africa, and what factors contribute to its prevalence and/or symptomatic expression?

**6. Why is this diagnosis infrequently made in rural Africa?
What test(s) can be done to support the diagnosis?**

7. What are the *most common pitfalls* in the diagnosis of this disease?

**8. How is the disease treated, and what response can be expected?
What are the predictors of therapeutic response?**

9. What are some of the key themes in clinical diagnosis illustrated by this case?