



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 56: Rash in the Way

A 12 year old boy is brought in by his concerned parents from the pediatric ward where treatment for malaria with a full course of quinine failed to work.

About a month ago the usually active boy began to seem listless and fatigued, sleeping longer than usual and not playing with friends after school. He lost his appetite and complained of pain in his belly. Two weeks ago his mother noted that his belly appeared swollen, and he was “hot” at night and then sweat after going to bed. When he began to have pain “all over his body”, in his “muscles and bones”, he was given Coartem for malaria by the local health center, without relief.

He continued to have fevers, chills and sweats and his parents brought him to the hospital where he was admitted to the Pediatrics ward. There he was again diagnosed with malaria, and this time treated with Quinine. After continuing to spike fevers through 10 days of therapy, he was transferred to the adult male ward for another opinion (there had been no doctor on the Pediatrics ward for 4 months).

On admission to the male ward, his mother said he had lost weight and his belly was swollen. The fevers were worse, and the body pain increasing. He had never had anything like this before, had always been active and healthy, and did well in school. None of his friends were similarly ill, nor were any of their other 4 children although all had had bouts of malaria before. The family farmed, and owned some cattle and goats, and a pig, and occasionally consumed milk from their cow and home-made cheese. The child helped in the fields after school and had no contact with pond or lake water. He had had no sore throat, skin rash, cough, chest pain, headaches or diarrhea. His urine and stools seemed normal. His parents were healthy, non-migrant locals, and monogamous.

Physical Exam: In no distress, appears small in stature, sitting in bed

BP 80/60 HR 106 T: 102.6 orally RR: 18

Skin: fine punctuate mildly erythematous rash diffusely, face, neck, trunk, legs (when pointed out to mother, she agreed)

HEENT: normocephalic; eyes: conjunctiva/sclera, without petechiae, icterus;

Mouth: no thrush, tongue normal; ENT: normal, without exudates or erythema

Neck: no JVP/HJR; shoddy lymphadenopathy, < 1cm; thyroid normal;

Lungs: clear

Heart: normal PMI, S1, S2; no murmurs, rubs or gallups

Abdomen: distended, diffusely tympanitic without shifting dullness; non-tender, no guarding

Spleen: large, soft, descends 4 cm below costal margin

Liver: non-palpable, 7 cm span; no masses;

GU: normal penis, testes and scrotum

Musculo-skeletal: full range of motion, no overt pain; no joint swelling

Neurologic: normal CN, motor, sensory, reflexes, gait

1. What is the “*frame*” of the case (the key clinical features the final diagnosis must be consistent with)?

2. What *differential diagnosis* fits the above frame? What features of the diseases nominated are at odds with the frame?

The lab had no reagents and was closed for the week (lab tech at a family wedding in Kampala, promising to return with reagents (!)).

The patient was treated for typhoid with ciprofloxacin. No response was seen. After 3 days of treatment, the rash began to desquamate, most marked on his face, neck and arms, not seen on his palms or soles.

3. Which diseases prevalent in Uganda are consistent with the evolution of the patient’s *rash*?

The child continued to spike fevers and have body aches. On about the 10th day on the ward, he was seen limping in from the lawn where he would usually sit with his younger ambulatory ward mates and complained to his mother of increased right knee pain and a painful testicle. Exam revealed a slightly warm right knee with an effusion, but full range of motion with some discomfort; and a swollen scrotum and tender left testicle.

**4. a) What is the final diagnosis? Describe its salient epidemiologic and clinical features.
b) How does the desquamating skin rash fit?
c) Where had the initial clinical reasoning erred?**