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 48 – Coughing Blood... Again

A 28 year old male is admitted to Kisoro District Hospital after coughing up blood for 2 days.

He was in good health until 2 years ago when he developed a cough, dry at first, then productive of yellow sputum and associated with fevers and weight loss. After 2 months of progressive symptoms, he noted blood in the sputum and he went to Kisoro District Hospital where TB was diagnosed (+AFB smears, no X-ray done), and an HIV test was negative. He was successfully treated for TB (4 drugs (Rifampin, INH, PZA, ethambutol – "RIPE") for 2 months, and INH/RIF thereafter for an intended 4 more months) and responded quickly by defervescing and gaining energy and weight. His sputum smear was negative at 2 month follow-up. He had documented adherence to DOT for 5 months, but discontinued all drugs a month earlier than anticipated when he went to Kampala for work.

He was fine for 6 months in Kampala and returned to Kisoro. Three months later he began coughing blood and came to KDH. He had not had any preceding symptoms of loss of energy, fevers, sweats or weight loss, and had a good appetite. An x-ray showed "fibrosis, ? infiltrate" in the right upper lobe. Despite 3 negative AFB smears, which were repeated as negative 2 months later, he was retreated with RIPE - DOT (with INH-RIF throughout) to which he adhered for the full 6 months, completing treatment 4 months ago. Intermittently he has had a mild cough in the morning with white-yellow sputum produced most mornings (and two days ago it was blood-streaked). He hasn't brought it to medical attention. He has remained without fatigue, weight loss, anorexia, fevers or night sweats.

Yesterday, again while feeling well without any other symptoms, digging in his fields, he began coughing blood. When it continued through the night he came to the hospital.

Physical Exam:

Well-appearing but anxious, coughing blood intermittently

B/P 110/80, no orthostatic changes; HR 90; T 36; R 18; pulse Ox 95%

Mouth: no thrush;

Neck: normal, no nodes; thyroid normal; no JVP

Lungs: right posterior lung field crackle, ronchi-wheeze which change with cough, otherwise clear

Heart: PMI normal, 5th ICS, MCL; S_1 S_2, normal without murmurs/gallups/rubs

Abdomen: normal, no hepato-splenomegaly or masses

Neurologic: normal

1. What is the “*frame*” in this case (i.e. the most important clinical variables the final diagnosis must be consistent with)?

2. What are the *central diagnostic questions* dominating this presentation?

3. What is the clinical significance of each of the features of your “frame”?

4. How should patients with TB be monitored in Uganda? Were any monitoring mistakes made during his prior episodes of treatment?

5. What are the implications of the durations of treatment the patient actually received on likelihood of cure of his TB?

6. What are the differences between TB treatment “failure”, “relapse” and “interruption” and what are the therapeutic implications of each?

7. What are the major risk factors for *relapse* of TB after initial cure*?*

8. Summarize the most important clinical issues regarding the likelihood of recurrent TB as the etiology of the first bout of recurrent hemoptysis in this patient, and the second.

9. Besides relapse of active TB, what is the differential diagnosis of hemoptysis post-treatment for TB, and what is the *most likely diagnosis* in this patient?

10. What tests should be done, and what treatment offered?