



## **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](mailto: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](mailto: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 46 – Coughing Blood

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A 19 year old woman from a remote village presents with six days of bloody sputum.

She has been coughing for 5 months, mostly dry at first for months, then intermittently productive of white to yellow sputum. Three months ago, she found out she was pregnant with her second child, and shortly thereafter, that she was HIV positive on routine screening (no CD4 done).

Despite her pregnancy, she has lost 10kilograms, from 48 to 38 kgs. Six days ago she noticed blood in her sputum and over the past 5 days, *large amounts* of pure blood filling about a half to a full cup or more per day. She has not experienced this or any other lung problem before, and hasn't noticed fevers, hot/cold sensations, or night sweats. Neither shortness of breath nor chest pain accompanies the cough. There is no history of alcohol use, seizures or loss of consciousness; and no edema or leg pain.

## Physical Exam:

Thin frail young woman, slight lower abdominal prominence; coughing blood during the interview and exam

B/P 110/60 without orthostatic changes; T 36; R 20; HR 96→100 sitting  
HEENT: no jaundice; slight conjunctival pallor; PERRLA; Fundi, benign without exudates  
Mouth: no thrush,  
Neck: multiple “shoddy” nodes, < 1 cm diffusely, in cervical chain bilaterally;  
thyroid: palpable/normal;  
Lungs: no crackles heard; possibly decreased breath sounds at left base;  
posterior left upper lung field 3-4cm area of loud clear hollow-sounding breath sounds “as if blowing across the top of a bottle”  
Heart: PMI in 5<sup>th</sup> ICS; no LV heave or RV lift; S<sub>1</sub>, S<sub>2</sub> without rubs or murmurs  
Abdomen: no tenderness, masses or hepato-splenomegaly palpated  
Extremities: no edema or pain;  
Neurologic: intact; general muscle wasting but strength intact and symmetric

**1. What is the “*frame*” in this case from the history and physical exam (i.e. the key clinical features the final diagnosis must be consistent with)?**

**2. What term has been used to describe the abnormal breath sounds in the posterior left upper lung field?**

- 3. What is the (near certain) diagnosis in this patient?  
What are other possible diagnoses and why are they unlikely?**
  
- 4. What might be the mechanism of the hemoptysis in this patient?**
  
- 5. What is the immediate bedside therapeutic maneuver to be initiated in this patient?**
  
- 6. What does the PE suggest about the patient's CD<sub>4</sub> count?**
  
- 7. What are the therapeutic challenges in caring for this patient?**