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 Jillian Morgan at jmorgan@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.

Gerald Paccione, MD
Professor of Clinical Medicine
Albert Einstein College of Medicine
110 East 210 St., Bronx, NY 10467
Tel: 718-920-6738
Email: gpaccion@montefiore.org

CASE 26 – ACUTE DIARRHEA x 2 Vignettes

Please read the following brief vignettes and answer the questions that follow:

A. A 4 year old boy presents with 3 days of diarrhea. At first the diarrhea was watery 5-10 times a day, but now it's worse: small volume stools about 20 times a day, mixed with blood and mucous. He's felt very "hot". Weak and listless, his mother brought him to the hospital after he had a seizure at home.

The physical exam is notable for general apathy, a temperature of 104; heart rate 130; RR 20, not deep; capillary refill 2 seconds; skin turgor intact; and a distended, tender abdomen with visible bowel loops.

1. **What is the "frame" in this case (i.e. the key clinical features the final diagnosis must be consistent with) and the clinical significance of each?**

2. **How volume depleted is the patient likely to be and why?**

3. **What is the likely diagnosis?**
   What is the epidemiology of the probable causal organism?

4. **What severe complications of infection with this organism are evident in this case? Why did the child seize?**

5. **The child becomes increasingly weak despite hydration. On exam, marked pallor is noted. He stops urinating despite stable BP. What may be happening?**

6. **What other complications are seen after this infection?**

B. A 17 year old boy presents with 3 days of fever and diarrhea. He was well until 5 days ago when he awoke in the morning and felt too weak to go work the fields. He had 2-3 loose bowel movements and, the day after, watery diarrhea began along with a scant non-productive cough. For the past 3 days he's had diarrhea, 4-8 times a day, watery and non-bloody, moderate volume, without tenesmus. He's vomited once but otherwise has kept food and liquid down. He's felt "hot" with chills each day; his cough is mild and persists but hasn't gotten worse, and his diarrhea has also been about the same since the first day of illness. However, he's felt progressively weaker and was brought to the hospital by family after being too weak to get out of bed.

Physical Exam on admission: T: 96; BP: 72/45; HR 126; RR 20
Mouth/pharynx: moist, no thrush; conjunctiva normal, not pale; no goiter;
Lungs clear;
Heart normal, S1, S2 no murmurs/rubs;
Abdomen: slight distention, normal-decreased bowel sounds, typanitic without shift ; no hepato-splenomegaly or masses
Neurologic: grossly normal, diffusely weak (5-/5); no fine tremor

1. What are some of the key questions raised by the clinical data in this case, and how should they be further addressed at the bedside?

2. The patient was diagnosed as having either viral gastroenteritis or non-dysenteric bacterial enteritis, and hydrated at 150 cc/hour. His SBP rose to about 77, his HR remained 115-120 and though still weak, he said he felt better with the intravenous infusion. About 3 hours later, he seemed confused to his mother, and the resident measured his SBP at 60, HR 130. Six hours post-admission, the exam by the resident was otherwise unchanged and the attending was called.

a) What do you think the attending found?
b) What was the diagnosis in this case?
c) Name at least 4 "understandable" mistakes made in this case that could have led to the patient's demise. Why are they "understandable"?