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.

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CASE 33 – PARALYZED LEGS

39 year old male farmer, carried to the hospital by his wife and brother, presents with inability to walk for a week. He is married, with 3 children, a native of Kisoro. The only health problem he recalled was lower back pain 14 years ago while working as a truck driver. The pain was sudden, precipitated by lifting a heavy load, worse with movement, and improved within a week with rest and "pills". He's never had back pain since.

One month ago while returning from farming one evening, he had the sensation that he was "walking on air". The sensation persisted, and over the next few weeks he started tripping over objects, not sure where his feet were. Two weeks ago his legs became increasingly weak, 4 days ago he couldn't walk, and two days ago he couldn't move his legs. Over the past 1-2 weeks he's noticed increasing numbness move up his legs a little every day, stopping 3 days ago at the level of his mid-belly and back. He's had no back pain or fever, and can feel the urge to urinate and defecate and control them normally. His arms and hands have normal strength and sensation.

He's not been HIV tested, has been monogamous for over 7 years since returning to Kisoro and not driving trucks, has never lived around lakes and doesn't swim, and hasn't had any sexually transmitted diseases or ulcers/blisters on his penis. He wasn't sick prior to the onset of these problems, and has had no weight loss, anorexia, cough, headaches, problems thinking, joint pains, skin rashes or problems with his bowels.

Physical Exam. Well-developed, pleasant man in no distress, using his arms to shift his body around

BP 110/70, HR 88, RR 16, T 98
Skin: normal, without rashes
Eyes: normal conjunctiva; fundi, benign without exudates, hemorrhages, papilledema
Mouth: no thrush or ulcers
Neck: no lymphadenopathy, thyromegaly, or JVP; supple
Lungs: clear
Heart: normal S1, S2, no murmurs
Abdomen: normal without masses, tenderness, distention or hepato-splenomegaly;
Extremities: no swelling, clubbing;
Musculo-skeletal: normal joints and muscles; no tenderness over spine to palpation or percussion
Neurologic: normal mental status; normal cranial nerves
rectal tone and sensation, normal
upper extremities: normal motor, sensory, reflexes, cerebellar exam
lower extremities (and abdomen):

0/5 motor strength legs bilaterally (unable to move) with rigidity on passive movement
decreased pain but can detect, symmetric deficit up to level ~T7
absent vibration/position legs, bilateral and symmetric
reflexes: 4+ (with clonus) bilateral and symmetric; extensor plantar reflexes bilaterally

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

2. **As with most challenges in Medicine and Neurology, in this case there are multiple "levels" to the diagnostic question: where is the lesion, what is the pathologic process, and what is its specific etiology.**

   Where is the lesion and what is the pathologic process? Explain.

3. **a) What is the clinical significance of the other features in the "frame"?**
   b) What is the name of the *clinical syndrome* defined by the features of this presentation?

4. **What is the differential diagnosis for**
   - 95% of disease processes in *this anatomic location <u>in Africa</u>*?
   - this *clinical syndrome* anywhere?
   (N.B. It's useful to approach this problem from both directions, the "patho-anatomy in Africa" and the specific "clinical syndrome", as diseases common to Africa but not usually presenting this way may occasionally present atypically and should be seriously considered when the stakes are so high.)

5. **What tests, available in many district hospitals in rural Africa, would be appropriate? Explain why.**

6. **How should this patient be treated?**