

# Critical Communication in a Complex Cocci Case

## - A Case of Disseminated Cocci to the Spine -

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### INTRODUCTION

- 20,003 cases of valley fever were reported to the CDC in 2019 and likely underrepresent actual incidence<sup>1</sup>. The phenotype is variable and can make diagnosis challenging. This case outlines diagnostic and management challenges involving disseminated coccidioidomycosis infection to the spine.

### CASE DESCRIPTION

#### History

- Patient is a 48-year-old African-American female Jehovah's Witness with history of uterine leiomyoma that presented with progressive low back pain and bilateral lower extremity weakness for 6 months. The initial insult was a ground-level fall while hiking and was managed as musculoskeletal strain. However, after months of physical therapy and reassurance, she required hospitalization when she was unable to rise from bed one morning. She denied sensory deficits or incontinence but could no longer lay flat due to pain with right-sided sciatica.

#### Physical Exam

- Temp 98.4, HR 95, RR 20, BP 159/112, SpO2 95%
- Musculoskeletal/neurologic exam revealed retained distal sensation, 5/5 fine motor strength, but limited flexion and extension of hips due to pain, and absent patellar and achilles reflexes.

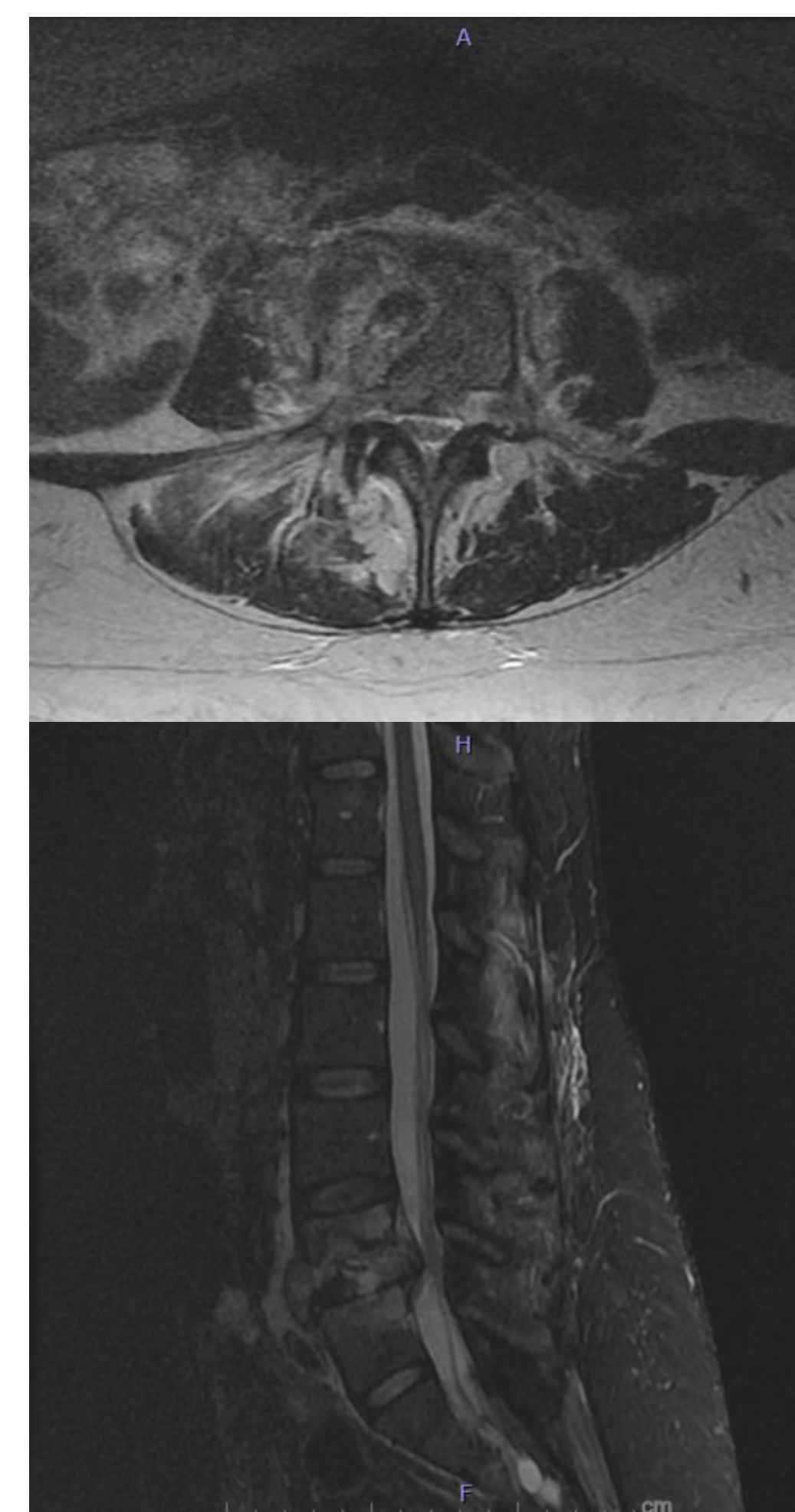
#### Initial Workup

- CBC and BMP were normal, with elevation of gamma gap 4.8 and ESR 30.
- CT and MR lumbar spine were performed with findings as above, initially concerning for metastatic disease.

#### Final Diagnostics

- Cocci serology testing: IgG positive with CF titers 1:64
- IR Bone Biopsy/Culture: osteomyelitis with culture positive mold, *Coccidioides* species. F/u bone scan with tracer uptake consistent with indolent infection

### LABS/IMAGING



**Fig. 1 (Left):** CT lumbar spine showed pathologic L4 compression fracture, possibly metastatic disease or multiple myeloma with retropulsion resulting in spinal canal and bilateral neural foraminal stenosis at L4-5  
**Fig. 2 (Right Top and Bottom):** MR lumbar spine – discitis and osteomyelitis of L4-L5, severe canal stenosis and effacement of CSF signal surrounding cauda equina with ventral epidural phlegmon.

### HOSPITAL COURSE

#### Hospital Course

- Surgery was required; however, due to patient values and surgical risk, an initially complex case became even more challenging. Orthopedic surgery proposed anterior approach laminectomy and fusion for long-term outcomes and recovery benefit at the cost of increased bleeding risk. This required vascular surgery, who unfortunately was not available until the following week. A transfer to another facility was attempted. After being declined by 5 different providers/facilities, anterior approach was abandoned in the interest of patient safety and expediting care.
- Patient underwent posterior stealth laminectomy and L3-L5 lumbar fusion. Hemoglobin was 12 mg/dL preceding surgery, decreased to 9.7 mg/dL after surgery, and recovered to 10.8 mg/dL.

### DISCUSSION

- Patient started on Fluconazole 800mg daily for minimum 1 year pending close follow-up with infectious disease. Patient is currently undergoing physical therapy as she regains the ability to walk.
- Disseminated coccidioidomycosis infection is reported between 0.2 – 4.7%, with overall average incidence of <1%<sup>2</sup>. Serologic testing sensitivity varies wildly, between 0-100%<sup>3</sup>. Taken together, this makes disseminated coccidioidomycosis difficult to catch.
- It can be tempting to take radiologic interpretation as absolute, leading to misguided investigation and delays in care. Maintaining a broad differential and pursuing a thorough history can expedite diagnosis and management and improve patient outcomes.

### CONCLUSION

- While making the diagnosis was challenging on its own, the coordination of care proved to be equally intensive. Incorporating patient values and preferences with interdisciplinary communication proved paramount in creating a management plan.
- This patient's care encountered many roadblocks that were only overcome through the flexibility and collaboration of every provider involved in this case. It highlights the importance of finding solutions and advocating for our patients no matter what challenges we face.

### REFERENCES

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