

Introduction

The risk of dissemination of coccidioidomycosis or Valley Fever can be substantially reduced by early diagnosis and intervention. Nevada, New Mexico and Utah, represent only 1-2% of the cases of coccidioidomycosis in comparison to states such as Arizona or California where 95% of cases are reported.¹ Fever of unknown origin (FUO) should be considered in pediatric patients with temperature >38.3°C (101°F) for ≥8 consecutive days with no identified source on initial outpatient or hospital evaluation with history, physical, and initial laboratory assessment.³ This definition also includes the history of 3 outpatient visits or 3 consecutive inpatient days without an identified cause.³

Case

5 year-old previously well female, born late preterm with uptodate vaccines, presented to a pediatric emergency department with recorded daily fevers > 101 F for 19 consecutive days with two prior ED visits at other facilities without symptom resolution despite antibiotic treatment. Fevers were associated with generalized malaise, cervical and thoracic spine and rib pain, with decreased appetite with weight loss and reduced activity due to lack of energy.

Physical Exam:

Vitals: BP 91/60 | Pulse 142 | Temp 101.5 F (Oral) | Resp 26 | Ht 117 cm (3' 10.06") | Wt 19 kg | SpO2 100% | BMI 13.88 kg/m²

GENERAL: Alert, interactive, **ill appearing**

HEENT: **conjunctiva is pale**

NECK: Supple, **decreased range of motion, she was unable to flex her neck from the horizontal position, she was unable to look up towards the ceiling when she was sitting position. Patient had difficulty with left and right movement of her neck, without lymphadenopathy or tracheal deviation**

CARDIOVASCULAR: **tachycardic rate for age** and normal rhythm,

MUSCULOSKELETAL: **decreased range of motion of the neck with flexion and extension.**

9.94 $\frac{9.2}{29.7}$ 582

ESR: 96
CRP: 78.68

Management

- ❑ CT head and neck
- ❑ LP and full fever workup in the ED including blood and urine cultures
- ❑ Concern for osteomyelitis in skull so pediatric ID was consulted
- ❑ Admitted to the hospital for further imaging and management

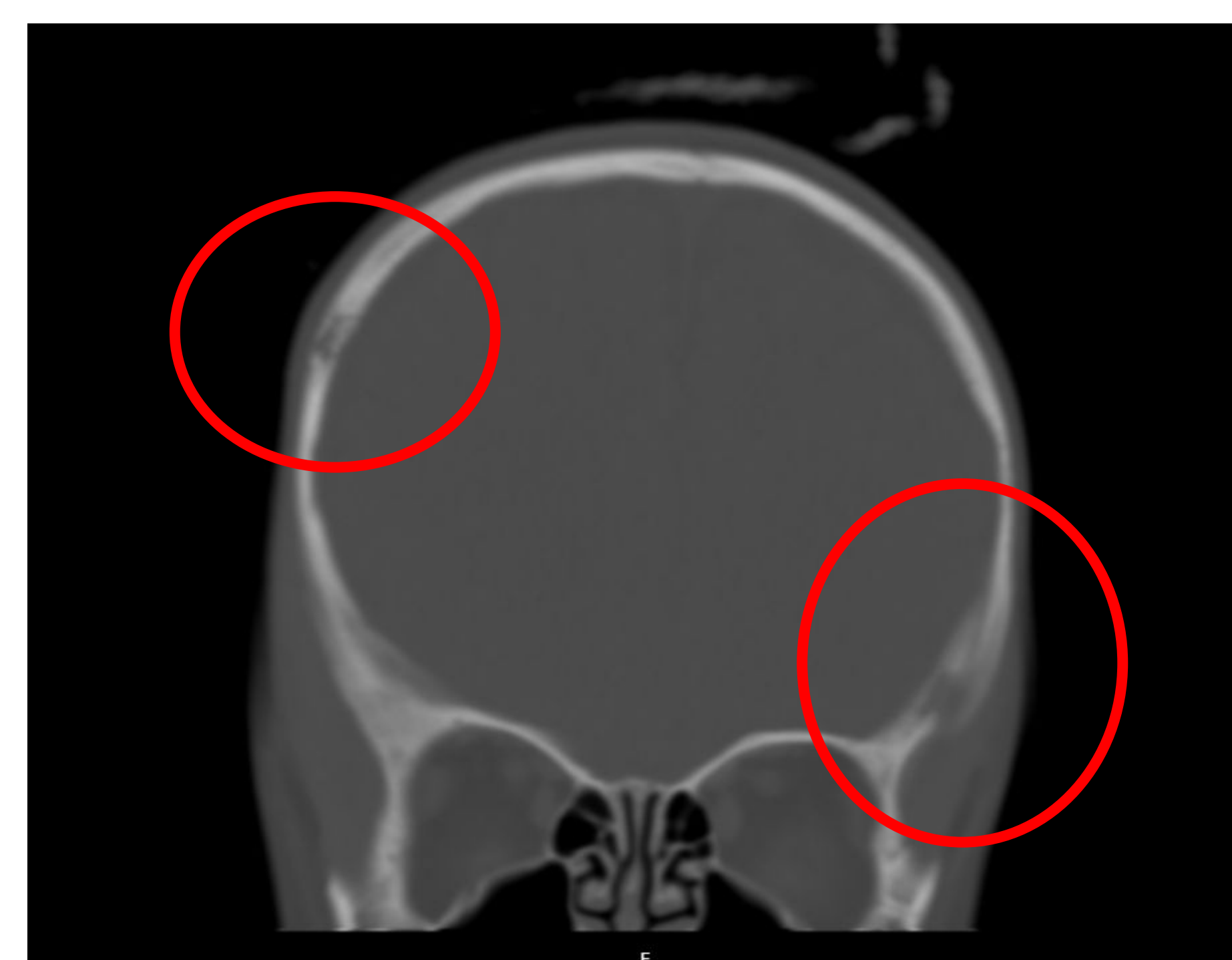


Figure 1. Lytic lesions of the frontal and parietal bones circled in red, viewed in bone window on coronal view of CT head without contrast.



Figure 2. Lytic lesion in the body of C3 with height loss circled in red, viewed on CT of neck with contrast in bone window, axial view.

Continued Care

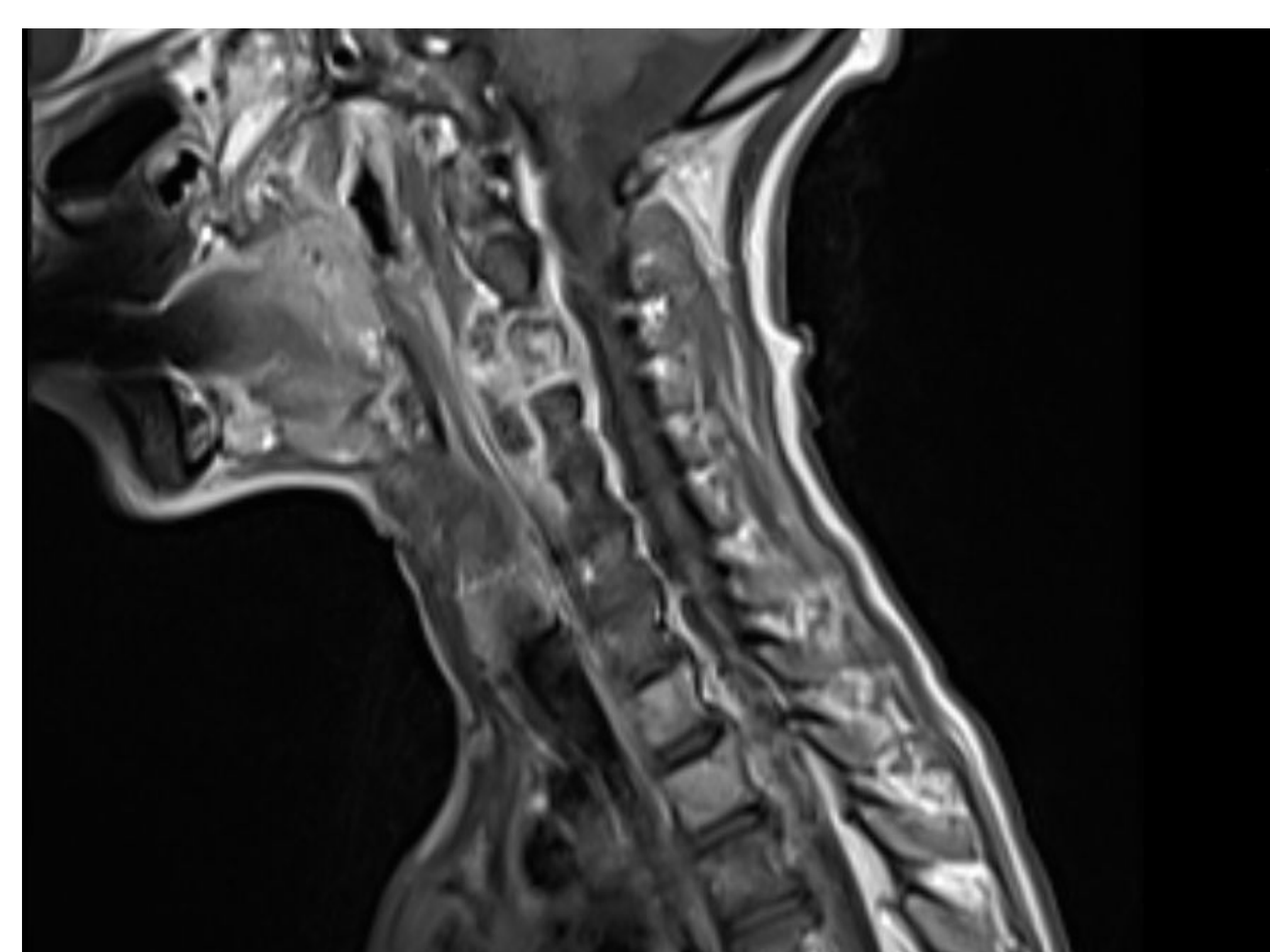
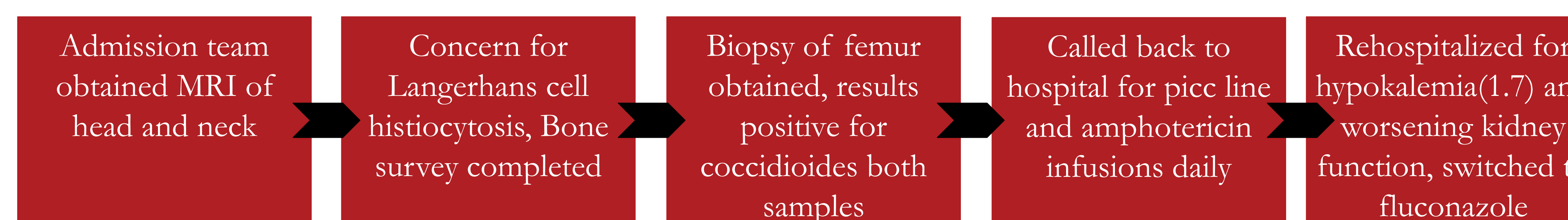


Figure 3. Lytic lesion of C3 vertebral body with height loss on T2 MRI of the cervical spine.

Through extensive imaging after admission it was found that she had lesions in her frontal and parietal skull, C2 vertebral body with loss of height, left upper lung, L5 and T11 lytic lesions, bilateral ribs, sternum, left femur, bilateral proximal tibia, ilium, ischium.

Discussion

Fever for less than 8 days is commonly seen in pediatric patients, but fevers for ≥8 days, the American Academy of Pediatrics has general guidelines for practitioners that will aid in the evaluation. With the common presentation being cough or URI prior to diagnosis of *Coccidioides* this case is an abnormal presentation showing that simply fever and bone pain can be the presenting symptoms. *Coccidioides* is not commonly tested in Southern Nevada due to the low prevalence of the disease. This can lead to prolonged disease prior to diagnosis increasing the risk of dissemination and worsening morbidity and mortality.⁴ Very few pediatric patients who have disseminated coccidiomycosis have underlying immunodeficiencies and with the increase in the incidence of disease in southern Nevada, increasing frequency of testing would be recommended.¹ This patients uncommon presentation should be included in testing when FUO is involved due to the dissemination to bone.²

Conclusions

When evaluating patients in the emergency department who present with FUO, expanding the differential and testing is essential for timely treatment and management of rare causes of disease. It is also essential to identify when the patient will need further inpatient testing to evaluate the cause of the FUO. In particular patients found to have disseminated coccidioidomycosis, a rapid diagnosis is crucial for treatment of the infection and better prognosis.

Acknowledgements

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References

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