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# **Physician Attestation**

I, Abraham K. Jacob, saw this patient with the resident and agree with the resident's findings and plan of care as documented in the resident's note.

I personally reviewed vital signs, medications, labs and imaging.

Key findings: Pt with 6 week hx if fevers, night sweats, weight loss. His exam is significant for submandibular lymph node enlargement, 0.5-1 cm; Lungs with symmetrical air entry, no wheeze or stridor. CV- RRR no M. Abdomen- no HSM, no masses. Ext - no rash or joint swelling

Abraham K. Jacob Date of Service (when I saw the patient)

# **Resident Documentation:**

# History of Present Illness

is a 7 year old male with PMH only significant for mild food and environmental allergies who presents with persistent fever of unknown origin and failure to thrive for 6 weeks. Roughly 8 weeks ago, that a perianal streptococcal infection (detected by swab) that was treated with 10 days of amoxicillin. Shortly after completing his course, ~6 weeks PTA, he began to have persistent daily fevers of ~102F. They occurred throughout the day, but appeared worse at night. Parents also noticed increased fatigue and lethargy around this time. He was seen by his PCP, who believed the fevers to be likely viral in nature, and they self-resolved without treatment after 5 days; parents report not treating the fevers with ibuprofen or tylenol at this time, allowing them to run their course.

After being afebrile for a few days, he developed persistent fevers again, ~4 weeks PTA. This time, the fevers were also accompanied by a slight unproductive cough and night sweats; parents and

Seen again by PCP, who believed this to likely be pneumonia, and was empirically treated with a 5 day course of Azithromycin. The fevers appeared to decrease in intensity, but subsequently, while in Colorado for vacation at the beginning of July, the fevers, cough, and night sweats became more intense (TMax 104F), and he saw a doctor in Telluride. At this visit, lab work revealed Hgb of 8.7 (microcytic), WBC of 17.4 (normal diff), and Platelets of 691K. A CXR was negative at this time. He was given a 10-day course of Omnicef for suspected pneumonia again, but also told to follow-up with a hematologist/oncologist for evaluation of possible leukemia given CBC findings.

Throughout this time, parents report poor weight gain. He has always been small for his age, and been a picky eater, but until recently (last WCC in March), he has been following his own growth curve along the 5th percentile; since the onset of this illness, he has "maybe lost a couple of pounds,"

and appears thinner than usual. He previously avoided dairy and gluten given a mild sensitivity to these (by allergy panel), but parents have been giving him unrestricted foods for the past 3 weeks (including dairy and gluten), in an effort to help him gain weight.

Patient is fully immunized per MIIC and has no known sick contacts, but does have a travel history to Arizona in March (horse ranch in the Sonoran Desert) and to South Carolina in December/January. Denies any HA, vision changes, rhinorrhea, chest pain, palpitations, SOB (none with the cough), abdominal pain, N/V/D, melena/hematochezia, pain with urination, bloody urine, focal weakness, joint pain, rashes/skin changes, or history of easy bruising/epistaxis.

One week ago, and parents presented to Hematology/Oncology at UMMCH. At that time, CBC again showed leukocytosis (18.8), anemia (9.1, MCV=76), thrombocytosis (565), and a differential significant for eosinophilia (absolute eosinophils=4.0, 21%). Further workup showed iron studies consistent with IDA, elevated CRP and ESR, negative HIV screen allow albumin (2.6), negative DAT, and a flow cytometry negative for any signs of leukemia/lymphoma. EBV/CMV PCR were also negative. BM biopsy was deferred, and GI was consulted for workup of possible malabsorption or IBD contributing to fever, anemia, weight loss, and other symptoms.

Patient was seen by GI, who recommended Pancreatic elastase, fecal Calprotectin, and MRE. Pancreatic elastase was normal, fecal calprotectin was negative, and MRE showed a mildly prominent lymph node near the cardiac apex but no e/o IBD; recommended consult with Infectious Disease. Seen by ID on 7/11 (1 day PTA), who sent a thorough workup and believed that the patient's differential included infectious, malignant, and rheumatologic causes. Recommended at this point that the patient be admitted for further management and evaluation of fevers and other systemic symptoms. Thus far, CXR ordered yesterday reveals hilar and paratracheal fullness suggesting possible lymphadenopathy.

HPI per patient and patient's parents, corroborated through chart review.

Physical Exam

Temp: 98.3 °F (36.8 °C) Temp src: Oral BP: 100/78 mmHg Pulse: 116 Resp: 20 SpO2: 100 % O2 Device: None (Room air) Vital Signs with Ranges Temp: [98.3 °F (36.8 °C)-103 °F (39.4 °C)] 98.3 °F (36.8 °C) Pulse: [113-139] 116 Resp: [20] 20 BP: (92-101)/(66-78) 100/78 mmHg SpO2: [99 %-100 %] 100 % 38 lbs 9.29 oz

GENERAL: Active, alert, in no acute distress; thin, pale-appearing, but nontoxic SKIN: Clear. No significant rash, abnormal pigmentation or lesions HEAD: Normocephalic. EYES: Symmetric light reflex and no eye movement on cover/uncover test. Normal conjunctivae. EARS: Normal external ears. NOSE: Normal without discharge. MOUTH/THROAT: Clear. No oral lesions. Teeth without obvious abnormalities. NECK: Supple, no thyromegaly. LYMPH NODES: Palpable L anterior lymph node ~1cm in size; no axillary lymphadenopathy appreciated LUNGS: Clear, very slight end-expiratory wheezing. No rales, rhonchi, or retractions HEART: Regular rhythm. Normal S1/S2. No murmurs. Normal pulses.

ABDOMEN: Soft, non-tender, not distended, no masses or hepatosplenomegaly. Bowel sounds normal.

#### GENITALIA: Deferred EXTREMITIES: Full range of motion, no deformities NEUROLOGIC: No focal findings. Cranial nerves grossly intact.

I have reviewed the Past Medical, Family and Social Histories and the Review of Systems. Please see the Student Note below for details.

I personally reviewed the chest x-ray image(s) showing hilar and paratracheal fullness

#### Assessment and Plan

origin for 6 weeks and failure to thrive, currently undergoing continued evaluation and management of his symptoms. At the moment, he is stable and nontoxic-appearing, but his persistent symptoms are concerning and must be thoroughly evaluated.

### Fever of Unknown Origin, Failure to Thrive:

is presenting with persistent fevers for 6 weeks, and also with symptoms of night sweats, intermittent cough, and poor weight gain and signs of iron deficient anemia, leukocytosis with eosinophilia, thrombocytosis, elevated inflammatory markers, and now cervical and possible hilar lymphadenopathy. With this constellation of symptoms, the differential is quite broad, but the most likely diagnoses fall under the categories of infectious, oncologic, or less likely immunologic/rheumatologic. The infectious disease differential is itself quite broad, but includes pulmonary fungal disease (including Coccidiodes, Histo, and Blasto), tick-borne illnesses, and less likely causes such as bartonella, brucella, or chlamydia psittacosis (parakeet at home per chart review). Lymphoma and/or leukemia is the leading hematologic/malignant differential diagnosis; although he had a normal flow cytometry, this does not exclude many types of lymphoma. With regards to the rheumatologic, this is possibly, however unlikely, consistent with a very atypical presentation of Kawasaki disease, and the patient warrants an echo. The absence of any rash or joint involvement make other rheumatologic diseases, such as JIA or DRESS syndrome, less likely.

- Admit to floor for continued management and evaluation of fevers and systemic symptoms
- Ibuprofen, Tylenol PRN
- Heme/Onc consulted, appreciate recs
- ID consulted, appreciate recs
- Rheum consulted, appreciate recs
- TTE for concern for coronary aneurysms 2/2 possible Kawasaki disease: negative
- CT scan of neck and chest for evaluation of lymphadenopathy, read pending
- LABS:
- UA, UCx
- Coccidioides antibody
- Stool O&P
- Triglyceride, Ferritin, reticulocyte count, peripheral smear (initial heme recs)
- Follow up outpatient ID labs sent on 7/11; negative thus far

#### Iron-Deficient Anemia:

- may have a component of chronic disease as well, or be related to Celiac disease (malabsorption of iron)

- repeat reticulocyte count, ferritin
- tissue transglutaminase IgA and serum IgA
- FOBT
- repeat Hgb as indicated, transfuse if Hgb<7.0

#### Seasonal Allergies:

- Continue home Flonase
- Continue home Flovent

#### FEN:

- no IVF for now, pending evaluation of PO intake and UOP
- General diet, patient may have milk and gluten (no restrictions)

Code Status: Full Code

Disposition: Likely 1-3 days, but unclear at this point, pending what workup of symptoms reveals.

