

[REDACTED]

[REDACTED]

PEDIATRIC INFECTIOUS DISEASES

Date: [REDACTED]

[REDACTED]

I had the pleasure of seeing [REDACTED] at the [REDACTED]

[REDACTED] is a new consultation today referred to our clinic by you [REDACTED] for work up and management of fever of unknown origin.

[REDACTED] is a 7 y/o male with food and environmental allergies and failure to thrive [REDACTED]. He has struggled with food allergies for most of his life, and has always been underweight. Otherwise he was in his usual state of health when he developed a pruritic red rash around his rectum with symptoms for about 1 week before seeking diagnosis and treatment 5/20/16. He was given a 10 day course of amoxicillin. Symptoms improved right away, but he did not complete the 10 day course. He tolerated the amoxicillin without issues.

Mother brings a fever log to our appointment today:

Beginning sometime June 6th-8th fevers started and mother thinks they lasted 5 days before abating. They returned again June 15th as nightly fevers associated with sweats. These persisted for most nights over the next couple of weeks. On some days [REDACTED] would seem to be well during the day but then fevers would come back at night. Over the holiday weekend the family went on vacation to Colorado, and fevers seemed to be higher in degree and there was more coughing. They saw a physician in Telluride, CO and [REDACTED] was noted to have a leukocytosis and thrombocytosis, and the physician told the parents he was concerned about leukemia. He also prescribed a 10 day course of cefdinir, which [REDACTED] is still taking. Fevers persisted. [REDACTED] was seen by Drs. [REDACTED] in Hematology/Oncology on 7/5, and noted to have iron deficiency anemia. [REDACTED] in GI also saw him on 7/5 and work up was not consistent with IBD including a normal MRE. [REDACTED] started using albuterol and Advair about 5 days ago and the cough and wheezing seems to be better. Otherwise fevers only seem to be more persistent up to 103 F now and during the day as well as the night.

[REDACTED] denies any pain at all. Specifically, no painful joints or muscles. No new rashes [REDACTED] does have some baseline issue with rash that parents attribute to food allergies, and think is actually better than usual. He denies any urinary complaints. He has 2-3 soft stools per day which start out more

formed and become less formed throughout the day. No blood or mucous in stools and no floating stools. No recent sore throat or rhinitis. Still has some residual cough but no SOB.

Exposures: Lives in [REDACTED] but in a wooded area. Mother has taken a tick off of [REDACTED] younger sister this summer. They have not traveled outside of the U.S. recently, and [REDACTED] has only ever been to Canada outside of the U.S. They did spend some time playing around a lake and in the sand. They recently took down a dusty treehouse. They have a parakeet at home and no other pets.

Review of Systems: The Review of Systems is negative other than noted in the HPI

Past Medical/Surgical History: Food allergies and poor weight gain throughout life. Has seen an allergist and started on sublingual immunotherapy about 3 years ago. Takes Zyrtec PRN last about 1 month ago, and has used montelukast in the past year but not in the past few months. Also took Vitamin D and fish oil in the past but not recently. Never hospitalized. No surgeries.

[REDACTED]

[REDACTED]

Social History:

Lives with mother, father, and younger sister in Minneapolis. See HPI for exposures. Doing well in school.

Immunization:

There is no immunization history on file for this patient. Not discussed today.

Allergies:

Allergies

Allergen	Reactions
• Corn Dextrin [Dextrin]	
• Dust Mites	
• Enviro-Stress [Hair-Skin-Nails]	
• Grass	
• Milk Protein Extract	
• Mold	
• Pollen Extract	
• Wheat Bran	

Antibiotic medications: Cefdinir day 9/10

Other medications:

Current Outpatient Prescriptions

Medication	Sig
• ibuprofen (ADVIL,MOTRIN) 100 MG/5ML suspension	Take 7.5 mLs by mouth every 6 hours as needed for fever or moderate pain

- fluticasone (FLONASE) 50 MCG/ACT nasal Spray 2 sprays into both nostrils daily spray
- albuterol (PROAIR HFA, PROVENTIL HFA, Inhale 1 puff into the lungs 4 times daily VENTOLIN HFA) 108 (90 BASE) MCG/ACT inhaler
- fluticasone (FLOVENT HFA) 110 MCG/ACT inhaler Inhale 2 puffs into the lungs 2 times daily for 5 days

No current facility-administered medications for this visit.

Physical Exam: Vitals were reviewed

Temp: 103 °F (39.4 °C) Temp src: Oral BP: 101/67 mmHg Pulse: 139

GENERAL: febrile but fairly active, friendly, alert and cooperative - very thin and small for stated age

HEENT: sclera clear, pupils equal and reactive, extra ocular muscles intact, oropharynx clear, mucus membranes moist, tympanic membranes clear bilaterally and neck supple

LYMPH: prominent moveable non tender lymph node left anterior cervical chain, and some additional shotty cervical nodes, no axillary nodes felt, and only very small nodes in groin

RESPIRATORY: no increased work of breathing, breath sounds clear to auscultation bilaterally, no crackles or wheezing and good air exchange

CARDIOVASCULAR: regular rate and rhythm, normal S1, S2, no murmur noted and 2+ pulses throughout

ABDOMEN: soft, non-distended, non-tender, no rebound tenderness or guarding, normal active bowel sounds, no masses palpated and no hepatosplenomegaly

GENITALIA/ANUS: normal male genitalia

MUSCULOSKELETAL: moving all extremities well and symmetrically and spine straight, no swollen or painful joints

NEUROLOGIC: no focal deficits

SKIN: non specific, scattered, non inflammatory lesions over bilateral lower extremities

Laboratory Results:

From today:

Results for orders placed or performed in visit on 07/11/16

CBC with platelets differential

Result	Value	Ref Range
WBC	17.2 (H)	5.0 - 14.5 10e9/L
RBC Count	3.57 (L)	3.7 - 5.3 10e12/L
Hemoglobin	8.0 (L)	10.5 - 14.0 g/dL
Hematocrit	25.8 (L)	31.5 - 43.0 %
MCV	72	70 - 100 fl
MCH	22.4 (L)	26.5 - 33.0 pg
MCHC	31.0 (L)	31.5 - 36.5 g/dL
RDW	15.5 (H)	10.0 - 15.0 %
Platelet Count	608 (H)	150 - 450 10e9/L
Diff Method	Automated Method	
% Neutrophils	57.8	%
% Lymphocytes	18.4	%
% Monocytes	5.8	%
% Eosinophils	17.2	%
% Basophils	0.5	%
% Immature Granulocytes	0.3	%
Nucleated RBCs	0	0 /100
Absolute Neutrophil	9.9 (H)	1.3 - 8.1 10e9/L
Absolute Lymphocytes	3.2	1.1 - 8.6 10e9/L

Absolute Monocytes	1.0	0.0 - 1.1 10e9/L
Absolute Eosinophils	3.0 (H)	0.0 - 0.7 10e9/L
Absolute Basophils	0.1	0.0 - 0.2 10e9/L
Abs Immature Granulocytes	0.1	0 - 0.4 10e9/L
Absolute Nucleated RBC	0.0	

CRP inflammation

Result	Value	Ref Range
CRP Inflammation	71.1 (H)	0.0 - 8.0 mg/L

Erythrocyte sedimentation rate auto

Result	Value	Ref Range
Sed Rate	101 (H)	0 - 15 mm/h

Comprehensive metabolic panel

Result	Value	Ref Range
Sodium	131 (L)	133 - 143 mmol/L
Potassium	3.7	3.4 - 5.3 mmol/L
Chloride	99	98 - 110 mmol/L
Carbon Dioxide	23	20 - 32 mmol/L
Anion Gap	9	3 - 14 mmol/L
Glucose	103 (H)	70 - 99 mg/dL
Urea Nitrogen	6 (L)	9 - 22 mg/dL
Creatinine	0.34	0.15 - 0.53 mg/dL
GFR Estimate		mL/min/1.7m2

GFR not calculated, patient <16 years old.
Non African American GFR Calc

GFR Estimate If Black mL/min/1.7m2

GFR not calculated, patient <16 years old.
African American GFR Calc

Calcium	8.7 (L)	9.1 - 10.3 mg/dL
Bilirubin Total	0.2	0.2 - 1.3 mg/dL
Albumin	2.3 (L)	3.4 - 5.0 g/dL
Protein Total	9.8 (H)	6.5 - 8.4 g/dL
Alkaline Phosphatase	164	150 - 420 U/L
ALT	20	0 - 50 U/L
AST	19	0 - 50 U/L

Blood culture, aerobic

Result	Value	Ref Range
Specimen Description	Blood Left Arm	
Culture Micro	No growth after 10 hours	
Micro Report Status	Pending	

From earlier in the course:

Component	Date	Value	Ref Range	Status
• Interpretation ECG	07/09/2016	Click View Image link to view waveform and result		Preliminary

Office Visit on 07/05/2016

Component	Date	Value	Ref Range	Status
• WBC	07/05/2016	18.8*	5.0 - 14.5 10e9/L	Final
• RBC Count	07/05/2016	3.90	3.7 - 5.3 10e12/L	Final
• Hemoglobin	07/05/2016	9.1*	10.5 - 14.0 g/dL	Final

• Hematocrit	07/05/2016	29.5*	31.5 - 43.0 %	Final
• MCV	07/05/2016	76	70 - 100 fl	Final
• MCH	07/05/2016	23.3*	26.5 - 33.0 pg	Final
• MCHC	07/05/2016	30.8*	31.5 - 36.5 g/dL	Final
• RDW	07/05/2016	15.5*	10.0 - 15.0 %	Final
• Platelet Count	07/05/2016	565*	150 - 450 10e9/L	Final
• Diff Method	07/05/2016	Manual Differential		Final
• % Neutrophils	07/05/2016	52.6		Final
• % Lymphocytes	07/05/2016	18.4		Final
• % Monocytes	07/05/2016	7.9		Final
• % Eosinophils	07/05/2016	21.1		Final
• % Basophils	07/05/2016	0.0		Final
• Absolute Neutrophil	07/05/2016	9.9*	1.3 - 8.1 10e9/L	Final
• Absolute Lymphocytes	07/05/2016	3.5	1.1 - 8.6 10e9/L	Final
• Absolute Monocytes	07/05/2016	1.5*	0.0 - 1.1 10e9/L	Final
• Absolute Eosinophils	07/05/2016	4.0*	0.0 - 0.7 10e9/L	Final
• Absolute Basophils	07/05/2016	0.0	0.0 - 0.2 10e9/L	Final
• Anisocytosis	07/05/2016	Slight		Final
• Microcytes	07/05/2016	Present		Final
• Platelet Estimate	07/05/2016	Confirming automated cell count		Final
• Copath Report	07/05/2016			Final

Collected: 7/5/2016
 Received: 7/5/2016
 Reported: 7/6/2016 17:11

TEST(S):
 Blood Smear Morphology

FINAL DIAGNOSIS:
 Peripheral Blood Smear:
 -Slight to moderate normochromic, normocytic anemia; increased rouleaux formation
 -Slight leukocytosis; neutrophilia; eosinophilia
 -Slight thrombocytosis

I have personally reviewed all specimens and/or slides, including the listed special stains, and used them with my medical judgment to determine the final diagnosis.

Electronically signed out by:

Technical testing/processing performed at University of Minnesota Medical Center, Fairview, Minneapolis, Minnesota

CLINICAL HISTORY:
 7 year old male. Peripheral smear review requested for anemia and

leukocytosis.

MICROSCOPIC DESCRIPTION:

PERIPHERAL BLOOD DATA (Date: July 5, 2016)

Patient Value (Reference Range 5-9 year old)

18.8 WBC (5.0- 14.5 x 10⁹/L)

3.90 RBC (3.7-5.3 x 10¹²/L)

9.1 HGB (10.5-14.0 g/dL)

76 MCV (70-100 fL)

30.8 MCHC (31.5-36.5 g/dL)

15.5 RDW (10.0-15.0 %)

565 PLT (150-450 x 10⁹/L)

47.6 Retic (25-95 x 10⁹/L)

PERIPHERAL BLOOD DIFFERENTIAL

(200 cells)

(Reference ranges 6 - 9 year old)

Percent

50 Neutrophils, segmented and bands

26 Lymphocytes

4 Monocytes

19 Eosinophils

1 Basophils

Absolute

9.4 Neutrophils, segmented and bands (1.3 - 8.1 x 10⁹/L)

4.9 Lymphocytes (1.1 - 8.6 x 10⁹/L)

0.8 Monocytes (0 - 1.1 x 10⁹/L)

3.6 Eosinophils (0 - 0.7 x 10⁹/L)

0.2 Basophils (0 - 0.2 x 10⁹/L)

The red blood cells appear normochromic. Poikilocytosis is minimal. Polychromasia is not increased. Rouleaux formation is increased. The morphology of the platelets is normal. Reactive lymphocytes are present. Neutrophils appear normally lobated and granulated.

CPT Codes:

A

: 85060-MORPH

• % Retic	07/05/2016	1.2	0.5 - 2.0 %	Final
• Absolute Retic	07/05/2016	47.6	25 - 95 10e9/L	Final
• Iron	07/05/2016	14*	25 - 140 ug/dL	Final
• Iron Binding Cap	07/05/2016	312	240 - 430 ug/dL	Final
• Iron Saturation	07/05/2016	4*	15 - 46 %	Final
Index				
• Ferritin	07/05/2016	159*	7 - 142 ng/mL	Final

• Lactate Dehydrogenase	07/05/2016	181	0 - 337 U/L	Final
• Uric Acid	07/05/2016	3.3	1.4 - 4.1 mg/dL	Final
• Sodium	07/05/2016	132*	133 - 143 mmol/L	Final
• Potassium	07/05/2016	3.5	3.4 - 5.3 mmol/L	Final
• Chloride	07/05/2016	100	98 - 110 mmol/L	Final
• Carbon Dioxide	07/05/2016	22	20 - 32 mmol/L	Final
• Anion Gap	07/05/2016	10	3 - 14 mmol/L	Final
• Glucose	07/05/2016	79	70 - 99 mg/dL	Final
• Urea Nitrogen	07/05/2016	7*	9 - 22 mg/dL	Final
• Creatinine	07/05/2016	0.38	0.15 - 0.53 mg/dL	Final
• GFR Estimate	07/05/2016			Final

Value:GFR not calculated, patient <16 years old.

Non African American GFR Calc

• GFR Estimate If Black	07/05/2016			Final
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Value:GFR not calculated, patient <16 years old.

African American GFR Calc

• Calcium	07/05/2016	9.2	9.1 - 10.3 mg/dL	Final
• Bilirubin Total	07/05/2016	0.2	0.2 - 1.3 mg/dL	Final
• Albumin	07/05/2016	2.6*	3.4 - 5.0 g/dL	Final
• Protein Total	07/05/2016	9.7*	6.5 - 8.4 g/dL	Final
• Alkaline Phosphatase	07/05/2016	157	150 - 420 U/L	Final
• ALT	07/05/2016	14	0 - 50 U/L	Final
• AST	07/05/2016	19	0 - 50 U/L	Final
• Sed Rate	07/05/2016	93*	0 - 15 mm/h	Final
• CRP Inflammation	07/05/2016	66.9*	0.0 - 8.0 mg/L	Final
• EBV DNA Copies/mL	07/05/2016	EBV DNA Not Detected	EBVNEG [Copies]/mL	Final
• EBV DNA Log of Copies	07/05/2016		<2.7 [Log_copies]/mL	Final

Value:Not Calculated

The Real-Time quantitative EBV assay was developed and its performance characteristics determined by the Infectious Diseases Diagnostic Laboratory at the University of Minnesota Medical Center in Minneapolis, Minnesota. The primers and probes are Analyte Specific Reagents (ASRs) manufactured by Qiagen.

ASRs are used in many laboratory tests necessary for standard medical care and generally do not require U.S. Food and Drug Administration approval. The FDA has determined that such clearance or approval is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or research.

This laboratory is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA-88) as qualified to perform high complexity clinical laboratory testing.

The quantitative range of this assay is 500-22,500,00 copies/mL (2.7-7.4 log copies/mL). A negative result does not rule out the presence of PCR inhibitors

in the patient specimen or EBV DNA nucleic acid in concentrations below the level of detection of the assay. Inhibition may also lead to underestimation of viral quantitation.

• CMV DNA Quantitation	07/05/2016	EDTA PLASMA		Final
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3% NK cells

0.03% CD34 positive blasts

There is no aberrant immunophenotype on the myeloid blasts.

ANTIBODIES:

Eight and ten-color analyses are performed for the following antigens: CD2, CD3, CD4, CD5, CD7, CD8, CD10, CD11b, CD13, CD14, CD15, CD16, CD19, CD20, CD33, CD34, CD38, CD45, CD56, and kappa and lambda immunoglobulin light chains. Cells are gated to isolate populations (CD45 versus side scatter and forward scatter versus side scatter), to exclude debris (forward scatter versus side scatter) and to exclude cell doublets (forward scatter height versus forward scatter width and side scatter height versus side scatter width). Forward scatter varies with cell size. Side scatter varies with the amount of cytoplasmic granules. Intensity for CD45 usually increases as hematolymphoid cells mature.

CLINICAL HISTORY:

7 year old male with anemia and leukocytosis

I have personally reviewed all specimens and/or slides, including the listed special stains, and used them with my medical judgment to determine the final diagnosis.

Electronically signed out by:

Analyte Specific Reagents are used in many laboratory tests necessary for standard medical care and generally do not require FDA approval. This test was developed and its performance characteristics determined by University of Minnesota Medical Center, Fairview Clinical Laboratories. It has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Codes:

A: 88184-LL, 88185-ADDFLOW, 88185-59-FLOW59(12), 88185-59-FLOW59(7), 88189-IFPF>15

COLLECTION SITE:

Client: University of Minnesota Medical Center, Fairview
Location: URONP (B)

• DAT Broad Spectrum	07/05/2016	Neg		Final
• HIV Antigen Antibody Combo	07/05/2016		NR	Final

Value:Nonreactive
HIV-1 p24 Ag & HIV-1/HIV-2 Ab Not Detected

• Protein Random Urine	07/05/2016	0.14		Final
• Protein Total Urine g/gr Creatinine	07/05/2016	0.16	0 - 0.2 g/g Cr	Final
• Creatinine Urine	07/05/2016	86		Final
• Microalbumin Urine	07/05/2016	9		Final
• Microalbumin mg/g Cr	07/05/2016	10.12	0 - 25 mg/g Cr	Final
• Calprotectin	07/05/2016			Final

Value:<16
Reference range: <=50
Unit: ug/g
(Note)
INTERPRETIVE INFORMATION: Calprotectin, Fecal
50 ug/g or less: Normal

51-120 ug/g: Borderline elevated, test should be re-evaluated in 4-6 weeks.
121 ug/g or greater: Abnormal, suggestive of inflammatory bowel disease (IBD).
Performed by ARUP Laboratories,
500 Chipeta Way, SLC,UT [REDACTED]
www.aruplab.com [REDACTED]

• Result	07/05/2016			Final
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Value:SEE NOTE
(Note)
Test name Result Flag Units RefIntvl

Pancreatic Elastase
312 ug/g >=201
INTERPRETIVE INFORMATION: Pancreatic Elastase
201 ug/g or greater Normal
100-200 ug/g Moderate to mild pancreatic insufficiency.
99 ug/g or less..... Severe exocrine pancreatic insufficiency.
Performed by ARUP Laboratories,
500 Chipeta Way, SLC,UT 84108 800-522-2787
www.aruplab.com, [REDACTED]

• Test Name	07/05/2016	Pancreatic Elastase, Fecal		Final
• Send Outs Misc Test Code	07/05/2016	80526		Final
• Send Outs Misc Test Specimen	07/05/2016	Feces		Final

Assessment and Plan:

[REDACTED] is a 7 y/o male with food and environmental allergies and failure to thrive and [REDACTED]. He presents for consultation with fever of unknown origin that has persisted over the past month.

We are impressed with the degree of eosinophilia on the most recent labs of 21% and absolute 4000. He has a leukocytosis and thrombocytosis, and a significant anemia (with a clear iron deficiency

component). His CRP and ESR are elevated, but his ferritin is close to normal. Albumin is low. We are reassured by the results of his peripheral blood smear showing no abnormal population of cells. GI work up seems less likely to be IBD.

Given that fevers have persisted for over a month with few other symptoms, we are not sure of the etiology. This degree of eosinophilia is concerning. [REDACTED] does have a significant history of atopy, and we do not have recent CBCs to compare with when he was well. The last in our system is from infancy in 2009. Mother thinks he may have had CBCs done by the allergist and has requested his records be sent to us, so we will look for those. Otherwise, drug reaction is possible, as a variant of DRESS perhaps but with no rash or signs of end organ damage. [REDACTED] has had amoxicillin and azithromycin and cefdinir over the last two months. We recommended to stop the cefdinir now, but would hold off on any further therapy until work up is complete. We think helminth infection is less likely here. Hematology considers the eosinophilia as another marker of inflammation in this case (per my telephone discussion with the fellow). We will repeat testing with CBC with DIFF, CMP, ESR, and CRP.

We will check the chest XR ourselves as cough and wheezing have been predominant complaints. Patient has received courses of both azithromycin and cefdinir which would cover most bacterial etiologies including Mycoplasma, Chlamydia, Streps, HiB, and some Staph coverage. Given the month of fevers, we would expect him to be more sick if he had a bacterial infection for this long not covered by these agents. Fungal infection is possible including endemic mycoses Histoplasma and Blastomyces, and we could also consider Cryptococcus although I think this would be more of an opportunist. We will check a Quantiferon test, but think TB is unlikely given low risk.

Tick exposure is evident, and so we will send testing for Babesia, Ehrlichia, Anaplasma, and Lyme. Given the history of recent Strep infection and elevated inflammatory markers we will check an ASO and also send for Echocardiogram. EKG was normal from the ED visit last week, and [REDACTED] does not have any other signs of acute rheumatic fever (ARF) but he did have Group A Strep skin infection for over a week before treatment. Recent literature has implicated Strep skin infections along with tonsillopharyngitis as potential etiology of ARF. Echocardiogram will also make sure there is no coronary aneurysm.

CMV and EBV PCRs are negative. We will also send Adenovirus PCR. We added Bartonella serology given the lymphadenopathy.

We will also refer to Rheumatology given the concern for autoimmune/inflammatory condition. We will have a low threshold for admission for further diagnostic testing if fevers persist without any positive findings.

We did not order testing for endemic mycoses today, but after the patient had left the lab we thought we would also like to test for urine Histoplasma Ag, blood for Histoplasma and Blastomyces Antigens, and blood for a fungal antibody panel. Consider serum Cryptococcus antigen. These should be done with the next laboratory assessment.

Follow-up appointment was not scheduled. Our next available clinic day is Wednesday 7/20/16, and this may be later than we would like. We will follow with [REDACTED] parents by phone and arrange for Rheumatology follow-up as soon as possible.

Please contact us directly with any questions.

Thank you for allowing us to assist in [REDACTED] care.

Sincerely,

██████████
Fellow in Pediatric and Adult Infectious Diseases

Patient was seen together with Dr Bazak Sharon, the attending physician at clinic. Assessment and plan were discussed with Dr. Sharon and the family.

Attestation

I, Bazak Sharon, M.D., have personally examined ██████████ and interviewed him and his parents. I've reviewed the note written by ██████████ and agree with the physical finding, assessment, and plan as outlined. I've made my edits to the note above.

In summary: ██████████ is seen today at the ██████████ clinic for an out-patient consultation requested by ██████████ from peds GI. He is a 7 year old generally healthy boy with recent (3-4 weeks) history of daily fever. Initially with occasional fever at nights which in the past week or so progressed to almost persistent fever (up to 103-104) which is responding to ibuprofen, but return within hours of NSAID administration. Associated symptoms are cough, wheezing, and decreased appetite. Even prior to his current illness he has been below the 5th% for weight, but he seems to loose even further weight in the past month. Parents report he seems pale to them. He has generalized mild-to-moderate fatigue but suprisingly is nto far from his base-line, even when fever is as high as 104+ (currently at clinic his temperature is 103F and he is smiling, playing on an iPad, cooperative with exam, and when asked specifically "how do you feel" answers: "good"). Labs done last week showed leukocytosis with mild left shift, significantly elevated eosinophil count, thrombocytosis, anemia (WBC-18.8, ANC-9.9, AEC-4, Plt-565, Hgb-9.1) and elevated inflammatory markers (CRP-67, ESR-93). Lab on 7/5 were also pertinent for hyponatremia (Na-132), hypoalbuminemia (2.6), and high total protein (9.7). He was seen last week by Hem/Onc who did not think this is a presentation of malignancy or other hematologic acute illness (they ordered and reviewed periph smear, leukemia/lymphoma evaluation, uric acid, LDH, ferritin). ██████████ was also seen by GI who were not concerned about IBD or other serious GI related process as the cause of his acute illness. During his current course he received several courses on antibiotics including amoxicillin, azithromycin, and cefdinir. None resulted in any significant clinical change. Today at clinic we repeated many of the labs which revealed worsening (or stability of abnormal values) for many of the tests (CRP-71, ESR-101, WBC-17, ANC-9.9, ALC-3.2, AEC-3.0, Plt-608, Hgb-8, Alb-2.3, Na-131, total protein-9.8). CXR was also done and showed Hilar and right paratracheal fullness suggests possible adenopathy. No focal pulmonary opacity. ██████████ is obviously acutely ill with a generalized inflammatory disease and his disease process is progressing. I'm particularly concerned about the increasing inflammatory markers, and decreasing Hgb. Also pertinent are the persistent thrombocytopenia, persistent high eosinophil count, persistent hyponatremia, persistent high total protein (especailly in light of decreasing Alb!!). Differential diagnosis include out-side of infectious disease also an auto-immune process or malignancy. In regard to infectious diseases, we must consider systemic infections such as tuberculosis, systemic viral infection (EBV, CMV, HIV - seem less likely based on negative lab tests, adenovirus is being tested for), systemic fungal infection (histo/balsto, cocci [high on the differential following a trip to AZ in April]). Also tick born infections such as anaplasma (less likely with his ANC), babesia, ehrlichia should be considered. Incomplete presentation of Kawasaki disease is on the differential as well as rheumatic fever (ECHO was ordered). Mycoplasma infection can present in such a way, but very unlikely in light of lack of respond to a course of azithromycin. Other, rare infectious etiologies such as colorado tick fever (Hx of travel to CO, although been there after symptoms started), leptospirosis, bartonella, brucellosis, tularemia, Q fever, toxoplamosis, and chlamydia psittacosis (the family have a parakeet at home) must also be considered and probably looked for if initial work-up does not yield a diagnosis.

In summary - Although I'm very encourage by his over all generally non-toxic clinical state I'm concerned about [REDACTED] recent illness and the fact it has gone un-daigned for so many weeks and clinically seems to be worsening. If we do not conclude a diagnosis, and based on his progression in the next few days and the results of the labs we ordered today - I think he might benefit from an admission to the hospital for more comprehensive work-up and consults.

It was my pleasure seeing [REDACTED] at clinic today and assist in his care. Please do not hesitate to contact me directly with any questions.

I spent a total of 90 minutes face-to-face with [REDACTED] and his family during today's office visit. Over 50% of this time was spent counseling the patient and/or coordinating care.

Bazak Sharon, M.D.

