Lupus and a High White Blood Cell Count

For the last 3 or so years, I have been experiencing lupus and a high white blood cell count. Having a high white blood cell count and lupus is not something you hear about often. In fact, one of the criteria for a lupus diagnosis is actually the opposite. Over the last few years, my white blood count has ranged from 12k-24k.

In early March of 2018, my rheumatologist ran some routine blood work. It was noted that my white blood count was high again. They decided it was time for me to be referred to a hematologist to make sure there was not anything else going on besides my lupus. You can find my many labs and chronic high white blood cell counts from the last two years below.

My Lab Results in Early March 2018 that finally prompted me to be referred after numerous high wbc counts previously.

Component: WBC
Standard Range:4.1-10.5
Your Values:16.0
Comments:
Component: Lymphocytes%
Standard Range:8.0-38.0
Your Values:18.9
Component: MIDs%
Standard Range:0.0-10.0
Your Values:5.4
Component: Granulocytes%
Standard Range:54.0-87.0
Your Values:75.7
Component: Lymphocytes#
Standard Range:0.6-2.6
Your Values:3.0
Component: MIDs#
Standard Range:0.0-0.7

Your Values:0.9
Component: Granulocytes#
Standard Range: 2.2-8.2
Your Values:12.1
Component: RBC
Standard Range:3.80-4.95
Your Values:4.77
Component: Hemoglobin
Standard Range:12.0-15.0
Your Values:14.2
Component: Hematocrit
Standard Range:35.4-43.7
Your Values:41.5
Component: MCV
Standard Range:80-97
Your Values:87
Component: MCH
Standard Range:25-35
Your Values:30
Component: MCHC
Standard Range:32.0-37.0
Your Values:34.1
Component: RDW
Standard Range:11.0-15.0
Your Values:11.7
Component: Platelet Count
Standard Range:130-400
Your Values:275
Every single time it has been found to have been neutrophils that are incredibly high. My rheumatologist referred me to a hematologist a few weeks after this test.

The labs that I had completed at my first visit at the end of March 2018 with the hematologist were:

Lab	Result	Range	Source
Basophil count (BA #)	0.1 x 10^3/uL	0 – 0.3	
Basophil, percent (BA %)	0.4%	0 – 1.6	

Lab	Result	Range	Source
Basophil, percent (man) (Basophil %)	0%	0 – 2	
Eosinophil count (EO #)	0.3 x 10^3/uL	0 – 0.6	
Eosinophil, percent (EO %)	1.6%	0 – 6	
Eosinophil, percent (EO %)	2%	0 – 8	
Hematocrit determination (HCT)	41.1%	34 – 46	
Hemoglobin determination (HGB)	14.2 g/dL	11.4 – 15.2	
Lymphocyte count (LY #)	3.1 x 10^3/uL	0.9 – 4	
Lymphocyte, percent (LY %)	23%	12 – 48	
Lymphocyte, percent (LY %)	20.4%	18 – 44	
Mean corpuscular hemoglobin determination (MCH)	30.7 pg	27 – 33	
Mean corpuscular hemoglobin concentration determination (MCHC)	34.5 g/dL	32.5 – 35.5	
Mean corpuscular volume (MCV)	89 fL	81 – 95	
Monocyte count (MO #)	0.9 x 10^3/uL	0.3 – 0.9	
Monocyte, percent (MO %)	3%	0 – 13	
Monocyte, percent (MO %)	5.7%	1 – 10	
Neutrophil count (Neu # (ANC))	11.1 x 10^3/uL	1.7 – 7	
Neutrophil, percent (Neu %)	71.7%	46 – 74	
Platelet count (PLT)	286 x 10^3/uL	150 – 415	
Red blood cell count (RBC)	4.62 x 10^6/uL	3.85 – 5	

Lab	Result	Range	Source
Red cell distribution width determination (RDW)	13.4%	11.5 – 15.5	
White blood cell count (WBC)	15.4 x 10^3/uL	4.1 – 10.3	
Albumin measurement (Albumin)	4.9 g/dL	3.5 – 5	
Alkaline phosphatase measurement (Alkaline phosphatase)	72 U/L	25 – 150	
Urea nitrogen measurement (BUN)	5 mg/dL	5 – 26	
Bicarbonate measurement (CO2)	23 mmol/L	20 – 32	
Calcium measurement (Calcium)	9.8 mg/dL	8.4 – 10.5	
Chloride measurement (Chloride)	105 mmol/L	96 – 109	
Creatinine measurement, serum (Creatinine)	0.6 mg/dL	0.7 – 1.2	
Glucose measurement (Glucose)	95 mg/dL	65 – 99	
Potassium measurement (Potassium)	4 mmol/L	3.5 – 5.5	
Sodium measurement (Sodium)	141 mmol/L	135 – 145	
(BCR/ABL interpretation)	NEGATIVE…		
Immunoglobulin A measurement (IgA, quant)	121 mg/dL	70 – 400	
Immunoglobulin G measurement (IgG, quant)	731 mg/dL	700 – 1600	
Immunoglobulin M measurement (IgM, quant)	26 mg/dL	40 – 230	
Lactate dehydrogenase measurement (LDH)	212 U/L	135 – 214	

Lab	Result	Range	Source
Albumin/Globulin ratio (A/G ratio)	1.8		
Alanine aminotransferase measurement (ALT/SGPT)	33 U/L	0 – 52	
Aspartate aminotransferase measurement (AST/SGOT)	25 U/L	0 – 45	
(BUN/Creatinine ratio)	8.33		
Bilirubin, total measurement (Bilirubin, total)	0.6 mg/dL	0.1 – 1.2	
Globulin measurement (Globulin)	2.8 g/dL		
(Polys, serous fluid)	72%	36 – 78	
Protein measurement (Total protein)	7.7 g/dL	6 – 8.5	

After running many tests, they still were unable to pinpoint the exact cause of my neutrophilia. As you can see in my labs above, many of my labs and tests that were ran were pretty normal besides the white blood count of 15k and specifically the increased neutrophils. My IGM and my Creatinine came back a little low, but no one really mentioned anything about those.

My results pretty much remained steady with a high WBC for the next year. In July of 2019, my rheumatologist wanted me to go back to the hematologist because my wbc was actually beginning to climb higher up to 19k.

Component:WBC
Standard Range:3.8-10.5
19.2
Component:Lymphocytes%
Standard Range:8.0-38.0
Your Values:19.4
Component:MIDs%

Standard Range:0.0-10.0
Your Values:5.4
Component:Granulocytes%
Standard Range:54.0-87.0
Your Values:75.2
Component:Lymphocytes#
Standard Range:0.6-2.6
Your Values:3.7
Component:MIDs#
Standard Range:0.0-0.7
Your Values:1.1
Component:Granulocytes#
Standard Range:2.2-8.2
Your Values:14.4
Component:RBC
Standard Range:3.80-4.95
Your Values:4.96
Component:Hemoglobin
Standard Range:12.0-15.0
Your Values:15.0
Component:Hematocrit
Standard Range:35.4-43.7
Your Values:45.0
Component:MCV
Standard Range:80-97
Your Values:91
Component:MCH
Standard Range:25-35
Your Values:30
Component:MCHC
Standard Range:32.0-37.0
Your Values:33.5
Component:RDW
Standard Range:11.0-15.0
Your Values:12.1
Component:Platelet Count
Standard Range:130-400
Your Values:286
This time, I had high lymphocytes, granulocytes, RBC, and Hematocrit. So, back to to the hematologist I went for

further testing and more blood work.

In August of 2019, my amazingly caring hematologist ran a TON of tests and took many tubes of blood.

Lab	Result	Range	Source
Basophil count (BA #)	0.1 x 10^3/uL	0 – 0.3	
Basophil, percent (BA %)	0.3%	0 – 1.6	
Basophil, percent (man) (Basophil %)	1%	0 – 1	
Eosinophil count (EO #)	0.1 x 10^3/uL	0 – 0.6	
Eosinophil, percent (EO %)	0%	0 – 5	
Eosinophil, percent (EO %)	0.7%	0 – 6	
Hematocrit determination (HCT)	43.1%	34 – 46	
Hemoglobin determination (HGB)	14.8 g/dL	11.4 – 15.2	
Unsaturated iron binding capacity measurement (Iron, % saturation)	12%	20 – 55	
Lymphocyte count (LY #)	2.8 x 10^3/uL	0.9 – 4	
Lymphocyte, percent (LY %)	21%	13.7 – 50.9	
Lymphocyte, percent (LY %)	14.3%	18 – 44	
Mean corpuscular hemoglobin determination (MCH)	30.8 pg	27 – 33	
Mean corpuscular hemoglobin concentration determination (MCHC)	34.3 g/dL	32.5 – 35.5	
Mean corpuscular volume (MCV)	90 fL	81 – 95	
Monocyte count (MO #)	1.1 x 10^3/uL	0.3 – 0.9	
Monocyte, percent (MO %)	5.5%	1 – 10	

Lab	Result	Range	Source
Monocyte, percent (MO %)	3%	3 – 11.9	
Neutrophil count (Neu # (ANC))	15.8 x 10^3/uL	1.7 – 7	
Neutrophil, percent (Neu %)	79.2%	46 – 74	
Platelet count (PLT)	330 x 10^3/uL	150 – 415	
Red blood cell count (RBC)	4.8 x 10^6/uL	3.85 – 5	
Red cell distribution width determination (RDW)	13.1%	11.5 – 15.5	
White blood cell count (WBC)	19.9 x 10^3/uL	4.1 – 10.3	
Albumin measurement (Albumin)	4.6 g/dL	3.5 – 5	
Alkaline phosphatase measurement (Alkaline phosphatase)	90 U/L	25 – 150	
Urea nitrogen measurement (BUN)	6 mg/dL	5 – 26	
Bicarbonate measurement (CO2)	25 mmol/L	20 – 32	
Calcium measurement (Calcium)	10.1 mg/dL	8.4 – 10.5	
Chloride measurement (Chloride)	104 mmol/L	96 – 109	
Creatinine measurement, serum (Creatinine)	0.57 mg/dL	0.7 – 1.2	
Glucose measurement (Glucose)	113 mg/dL	65 – 99	
Potassium measurement (Potassium)	3.9 mmol/L	3.5 – 5.5	
Sodium measurement (Sodium)	139 mmol/L	135 – 145	
Vitamin B12 measurement (Vitamin B12)	526 pg/mL	211 – 911	
(Myeloid/Lymphoid + acute leukemia analysis, flow cytometry)		NEGATIVE…	

Albumin/Globulin ratio (A/G ratio)	1.5		
Alanine aminotransferase measurement (ALT/SGPT)	23 U/L	0 – 52	
Aspartate aminotransferase measurement (AST/SGOT)	16 U/L	0 – 45	
(BUN/Creatinine ratio)	10.53		
Bilirubin, total measurement (Bilirubin, total)	0.4 mg/dL	0.1 – 1.2	
Folic acid measurement, serum (Folate, serum)	14.76 ng/mL		

AND MORE TESTS…….

Iron measurement (Iron)	40 ug/dL	37 – 145	
(JAK2 gene mutation)	NORMAL…		
(Polys, serous fluid)	75%	37.1 – 78.1	
(TIBC)	325 ug/dL	228 – 428	
Protein measurement (Total protein)	7.6 g/dL	6 – 8.5	

At this appointment is when I had reached a point of hopelessness. I felt like shit all the time and knew that something else besides lupus had to be going on. I expressed my concerns to my hematologist and she believed that a CT scan should be conducted to at least rule out any other possible causes of my chronic high white blood count. Little did I know how much my own advocacy and a great doctor had a direct impact on what would happen next in my health journey.

The results of my CT scan from September of 2019:

FINDINGS:

Chest:

- The central airways are patent.
- There is mild bilateral bronchial wall thickening.

- There is mild patchy airspace opacity within the anterior right upper lobe.
- A 5 mm subpleural nodule in the left upper lobe is unchanged, likely benign.
- No pleural effusion or pneumothorax.
- Heart size is normal.
- No pericardial effusion.
- No aortic aneurysm or dissection.
- Visualized thyroid is unremarkable.
- Small mediastinal lymph nodes are unchanged from 2016, probably reactive.
- Small bilateral axillary lymph nodes are also unchanged.

Abdomen and pelvis:

- There is fatty infiltration of the liver.
- Prior cholecystectomy.
- No significant biliary dilation.
- The pancreas is unremarkable.
- The spleen size is normal.
- No adrenal mass.
- No hydronephrosis.
- There is a 1.9 x 1.6 cm upper pole right kidney mass with mild internal enhancement, image 78.
- A small right kidney cyst is also seen.
- The bladder is unremarkable.
- There is a 3.0 cm right ovarian cyst with mild peripheral enhancement.
- No bowel obstruction or focal inflammatory changes.
- The appendix is unremarkable.
- Tiny amount of free fluid is seen in the right adnexal region which appears mildly complex.
- No free air.
- No aortic aneurysm or dissection.
- No pathologically enlarged lymph nodes.

Musculoskeletal:

- No acute fracture.
- No suspicious lytic or blastic lesions.

IMPRESSION:

1. Mild airspace opacity within the anterior right upper lobe may be infectious. Recommend follow-up to resolution.
2. Stable subcentimeter left lung nodule, unchanged from 2016.
3. A 1.9 cm enhancing mass is seen within the right kidney. Malignancy not excluded. Consider MRI for further evaluation.
4. Small mildly complex right ovarian cyst with a tiny amount of adjacent fluid. This can be further evaluated with ultrasound. 5. Additional incidental findings described above.

I didn't lie when I said I was a medical hot mess. They found out during this CT scan that I pneumonia (had no idea I even had it), an enhancing mass that eventually lead to my ***lupus and kidney cancer story***. They also discovered I had a complex cyst on my ovary that they were unable to tell if it was a normal cyst that was beginning to hemorrhage or if it was something more than a simple cyst. I didn't lie either when I said I am in chronic pain daily that I literally can not tell whats what anymore. My hematologist then referred me to a uro-oncologist and a gyno-oncologist. The fall was filled with multiple appointments and scans and even more lab work.

While I was definitely freaked TF out about finding out I had a tumor on my kidney, I felt relieved in the fact that I believed it was the source of my chronic high WBC and chronic hematuria I have been having for the last few years. I felt like those were 2 mysteries that I could finally put to rest because at least this HAD to be the reason for it.

Shortly before my surgery for Clear Cell Renal Cell Carcinoma, my uro-oncologist ran some pre-surgery blood work. They

called me when they saw how high my white blood counts were and were concerned that I had an underlying infection. You can see in my results below, my WBC was now over 20k.

Component	Your Value	Standard Range
WBC	**20.98** K/mcL	*4.50 - 11.00 K/mcL*
RBC	**4.81** M/mcL	*4.00 - 5.20 M/mcL*
Hemoglobin	**14.5** g/dL	*12.0 - 16.0 g/dL*
Hematocrit	**45.8** %	*36.0 - 46.0 %*
MCV	**95.2** fL	*80.0 - 100.0 fL*
MCH	**30.1** pg	*26.0 - 34.0 pg*
MCHC	**31.7** g/dL	*31.0 - 37.0 g/dL*
Platelets	**322** K/mcL	*150 - 400 K/mcL*
RDW - CV	**12.8** %	*11.6 - 14.8 %*
MPV	**10.5** fL	*9.0 - 15.5 fL*
Nucleated RBC	**0.0** %	*%*
Nucleated RBC Abs	**0.00** K/mcL	*0.00 - 0.00 K/mcL*

My high WBC about a week before my kidney cancer surgery.

Concerned about the possibility of an underlying infection or possibly the pneumonia still raging, I went to the ER about 2 days later. I had a CT scan that showed the pneumonia was gone and they even ran blood cultures to be sure that nothing else was going on and they came back negative as well.

These are the results from that CBC:

Component	Your Value	Standard Range
WBC	**22.93** K/mcL	*4.50 - 11.00 K/mcL*
RBC	**4.68** M/mcL	*4.00 - 5.20 M/mcL*
Hemoglobin	**14.3** g/dL	*12.0 - 16.0 g/dL*
Hematocrit	**41.7** %	*36.0 - 46.0 %*
MCV	**89.1** fL	*80.0 - 100.0 fL*
MCH	**30.6** pg	*26.0 - 34.0 pg*
MCHC	**34.3** g/dL	*31.0 - 37.0 g/dL*
Platelets	**291** K/mcL	*150 - 400 K/mcL*
RDW - CV	**12.0** %	*11.6 - 14.8 %*
MPV	**10.3** fL	*9.0 - 15.5 fL*
Neutrophils	**77.8** %	%
Lymphocytes	**14.7** %	%
Monocytes	**5.9** %	%
Eosinophils	**0.7** %	%

After seeing the results of my CT scan and negative blood cultures, my surgery was scheduled. I had blood work taken the morning of my surgery and while my WBC went down a little, it was still over 21k.

Component	Your Value	Standard Range
WBC	**21.24** K/mcL	*4.50 - 11.00 K/mcL*
RBC	**3.84** M/mcL	*4.00 - 5.20 M/mcL*
Hemoglobin	**11.7** g/dL	*12.0 - 16.0 g/dL*
Hematocrit	**35.2** %	*36.0 - 46.0 %*
MCV	**91.7** fL	*80.0 - 100.0 fL*
MCH	**30.5** pg	*26.0 - 34.0 pg*
MCHC	**33.2** g/dL	*31.0 - 37.0 g/dL*
Platelets	**280** K/mcL	*150 - 400 K/mcL*
RDW - CV	**12.1** %	*11.6 - 14.8 %*
MPV	**10.6** fL	*9.0 - 15.5 fL*
Nucleated RBC	**0.0** %	%
Nucleated RBC Abs	**0.00** K/mcL	*0.00 - 0.00 K/mcL*

A few weeks after my surgery, I had a follow up appointment with my hematologist. She also ran a CBC panel and my WBC

dropped to 17k. Once we discussed the tumor that had been found and removed along with my still high WBC, she schedule a bone marrow biopsy to ensure that nothing else was causing my WBC. Once the results came back for the bone marrow biopsy, it was believed that my high white blood count was reactive to lupus.

Result of Bone Marrow Biopsy:

DIAGNOSIS: BONE MARROW; CORE BIOPSY, CLOT AND ASPIRATE SMEARS: SLIGHTLY HYPERCELLULAR MARROW SHOWING MATURING TRILINEAGE HEMATOPOIESIS WITH MILD MYELOID HYPERPLASIA. NO INCREASE IN BLASTS, SEE COMMENT. COMMENT: The above findings are non-specific and likely reactive.

As you can tell, the fall was crazy with a ton of blood drawn, more tests than I can count, cancer surgery, a bone marrow biopsy and more doctor visits. By January, I was OVER going to the doctor. I took a few weeks to gather myself after the holidays and then COVID happened.

One of the first appointments I had once places began to reopen was with my rheumatologist. He also took some standard blood work and I was able to see that my WBC was still high, even months after having my surgery. It seems the consensus is that lupus and the associated inflammation is causing my chronic high white blood counts.

White blood cell count (WBC)	18.6 K/uL	4.1 - 10.3
Albumin measurement (Albumin)	4.9 g/dL	3.5 - 5
Alkaline phosphatase measurement (Alkaline phosphatase)	87 u/L	25 - 150
Urea nitrogen measurement (BUN)	7 mg/dL	5 - 26
Bicarbonate measurement (CO2)	26 mmol/L	20 - 32
Calcium measurement (Calcium)	10.0 mg/dL	8.4 - 10.5

Lab results in March 2020 showing a high WBC.

CBC w/ Diff*		05/11/2020 09:19	
Description	**Result**	**Flags**	**Range**
WBC	22.9	HH	3.8-10.5
Lymphocytes%	20.0		8.0-38.0
MIDs%	5.1		0.0-10.0
Granulocytes%	74.9		54.0-87.0
Lymphocytes#	4.6	H	0.6-2.6
MIDs#	1.2	H	0.0-0.7
Granulocytes#	17.1	H	2.2-8.2
RBC	4.89		3.80-4.95
Hemoglobin	15.0		12.0-15.0
Hematocrit	43.4		35.4-43.7
MCV	89		80-97
MCH	31		25-35
MCHC	34.6		32.0-37.0
RDW	12.1		11.0-15.0
Platelet Count	289		130-400
ALTV		**05/11/2020 09:19**	
Description	**Result**	**Flags**	**Range**
ALTV	25.0		<35.0

Recent lab results from May 2020 labs still showing a high WBC.

Lupus and a High White Blood Cell Count

You can see how my white blood count continues to rise and fall but seems to remain chronically high. I still questioned if my rheumatologist agreed with the bone marrow biopsy from my hematologist because there is not a lot of literature online about lupus and a high white blood cell count.

He assured me that he has had patients who have had similar findings in regards to lupus and their WBC being high. This helped me feel a little better, but I still have this anxiety that something else may be going on and they just haven't been able to figure out exactly what. After the last couple years of medical surprises, this honestly would not be surprising.

Have any of you experienced lupus and a chronic high white blood cell count?