



What Role Do Lymphocyte and IgG Levels Play in CLL?

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Andrew Schorr:

My first question came in, and it's really starting with you, Bill, and it's one any of us with CLL, any of these lymphoid diseases wonder, and he says, for a CLL patient when should you be concerned about the lymphocyte level? And they also want to know about the IgG level, too. So maybe you could take those two.

Dr. Wierda:

Okay.

Andrew Schorr:

When is it concerning?

Dr. Wierda:

So the white blood cell, the lymphocyte count, the absolute lymphocyte count is a parameter we use, for example, in patients who are in watch and wait it's a parameter that we use to monitor, and it kind of tells us what the activity level is of the disease. If the disease is inactive, is in an active phase or as an active form, the white blood cell count can rise rapidly, and the rate at which it rises is what's referred to as the doubling time.

So the doubling time, which is the amount of time it takes for the lymphocyte, absolute lymphocyte count to double reflects the activity and aggressiveness of the disease. It's a parameter that we use that sort of gives us an idea of the pace of the patient's disease. It's been discussed as perhaps a parameter that's used to start treatment.

If the lymphocyte doubling time is less than six months, for example, that may be an indication to start treatment. It usually isn't the only indication in any particular patient, but it's probably the most useful, the lymphocyte doubling time, and what the absolute lymphocyte count's doing is probably the most useful for us in terms of just getting a gauge of the pace of the patient's disease.

We don't use the white blood cell count as an indication to treat. So I'll give you an example of a patient I saw in the clinic yesterday who has—had a white blood cell count of 250,000. He had nearly a normal hemoglobin level and nearly a normal platelet count, and he had no symptoms, so—and he had no lymph nodes.

He had stage 0 disease, but he has a very high white count. It's not causing any trouble, so I sent him on his way back home to see me again in six months. So—and I've had patients who've told me, well, they were started on treatment, because their white count had hit 100,000, for example. And so what I would encourage patients to do is ask questions about, you know, what the white count is and what's it being used for and make sure they know that it's not necessarily an indication for treatment. What the absolute lymphocyte count is.

Andrew Schorr:

Before you go to IgG, immunoglobulin, right?

Dr. Wierda:

Correct.

Andrew Schorr:

Before you go to that, I just want to mention because I had my own experience with it. So my white count got up to 253,000. I was feeling okay til then, watch and wait, four-and-a-half years, but then the other things you look for. My hemoglobin was dropping, I had an enlarged spleen, I had swollen lymph nodes, I was tired. So that would be more of an indication to start treatment.

Dr. Wierda:

Those are the indications that we use to start treatment, yes, a low hemoglobin and/or a low platelet count, not just a number.

Andrew Schorr:

Right. Okay. And what's IgG, this immunoglobulin, that level. What does that matter, Bill?

Dr. Wierda:

Right. So it's a protein that's part of the immune system. B cells make IgG. There are other forms of immunoglobulin. There's IgA and IgM. IgG in CLL correlates with sort of an immune status or immune function. And what we see with CLL is that even in the absence of treatment gradually the IgG level will decrease, and when the IgG level decreases that is a risk for infection. Patients can develop pneumonias, respiratory infections, bacterial infections, particularly if their IgG is low.

And one thing that we can do in patients who have had a significant infection and they have a low IgG level is replace it with IVIG. So we pay close attention to it. And particularly in patients who have had infections because if their IgG level is 500, we can replace it with intravenous immunoglobulin G, and that will reduce their risk for subsequent infections.

We don't replace it if they don't have any infections, and IVIG really only replaces IgG. So we pay less attention to IgM and IgA, because those are not things that we can act on.

Andrew Schorr:

Okay. Lynne, where do those show up on the blood test? Is that in a typical blood test, this IgGs, IgMs?

Lynn Ingram:

It would not be on a routine test, but it definitely can be ordered easily enough. Most of the time, it's an electrophoresis procedure where they separate those immunoglobulins by their weight and electrical charge, and you can see which one is the one that's elevated or decreased.

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