CLL SOCIETY
Resource Library

AUTOIMMUNE DISORDERS

Autoimmune disorders occur when the body's immune system mistakenly attacks and damages healthy cells. Because chronic lymphocytic leukemia (CLL) and small lymphocytic lymphoma (SLL) are cancers of the immune system, not only is there a diminished capacity to fight off infections and secondary cancers due to a poorly functioning immune system, but there is also an increased tendency for the immune system to attack healthy cells within the body and damage them.

WHAT AUTOIMMUNE DISORDERS ARE ASSOCIATED WITH CLL AND SLL?

There are over eighty different autoimmune diseases but only a few of them are associated with CLL and SLL. The most common autoimmune disorders associated with CLL and SLL result from an autoimmune attack on various types of blood cells causing them to die, which results in abnormally low (and sometimes critical) levels of these cells. The most common disorders include:

- **Autoimmune Hemolytic Anemia (AIHA):** This disorder is the most common autoimmune complication of the disease and occurs when the body's immune system destroys mature red blood cells, which are responsible for carrying oxygen to tissues. AIHA is observed in 4-10% of those diagnosed with CLL and SLL.
- **Immune Thrombocytopenic Purpura (ITP):** This disorder is the second most common autoimmune disorder observed in CLL and SLL and occurs with the body's immune system destroys platelets, which are responsible for blood clotting.
- **Pure Red Cell Aplasia (PRCA):** This disorder is much more rare, occuring in only 0.5% of people with CLL and SLL. It results from the destruction of immature red blood cells in the bone marrow.
- **Autoimmune Neutropenia (AIN):** This disorder occurs due to the destruction of neutrophils, a type of white blood cell. Like PRCA, AIN is also a rare occurrence.
- **Evans Syndrome:** This syndrome occurs when two or more of the above autoimmune conditions happen together.

WHAT ARE SOME OF THE SIGNS AND SYMPTOMS OF AUTOIMMUNE DISORDERS?

Autoimmune disorders can have a range of symptoms that can be general and non-specific, or they can be similar to other medical conditions (including progression of the cancer). Common symptoms for those with CLL and SLL who develop autoimmune disorders are significant fatigue, weakness, and other signs and symptoms associated with low blood cell counts. However, there are additional symptoms associated with the more common autoimmune disorders mentioned above.

Common Symptoms of AIHA and PRCA include:

- Fast heartbeat
- Breathlessness or difficulty breathing with activity
- Chest pain
- Lightheadedness, dizziness, or feeling faint
- Paleness of the skin or inner eyelids
- Headaches
- Whooshing noises in the ears

Common symptoms of AIHA include:

- Yellowing of the skin or whites of the eyes (also called jaundice)
- Dark brown colored urine

Common symptoms of ITP include:

- Easy bruising, including very large areas of purple bruises under the skin (called ecchymoses)
- Small red or purple dots on the skin that may resemble a rash, but the color will not change if you press on them (called petechiae)
- Frequent nosebleeds that may take a long time to stop
- Heavy and/or prolonged menstrual periods in females
- Bleeding gums, especially during brushing or flossing
- Blood in vomit, urine, or stool

Common symptoms of AIN include:

- Recurring or chronic infections, most commonly ear and respiratory infections. But can also include mouth, skin, or urinary tract infections. Serious infections including pneumonia, meningitis, and sepsis, may also occur.

ARE THERE ANY OTHER AUTOIMMUNE DISORDERS THAT CAN OCCUR?

CLL and SLL may also be linked to other non-hematologic autoimmune conditions that affect

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the skin, nerves, clotting factors, thyroid function, joints, and other organs. Overall, the most frequent conditions that can develop are Hashimoto's disease and rheumatoid arthritis. However, cases of other non-hematologic autoimmune disorders that are extremely rare in the general population have also been reported.

WHY IS THERE AN INCREASED TENDENCY FOR AUTOIMMUNE DISORDERS?

Although the exact mechanism is not completely understood, it is believed that an abnormal interaction between cancerous B cells and abnormally functioning T cells (which are also often damaged by the cancerous cells or by certain treatments) can cause the non-cancerous B cells to produce autoantibodies (which are immune cells that attack the body's own cells). Although the overall incidence is rare, certain treatments used to treat the cancer can sometimes cause autoimmune disorders as well.

HOW COMMON IS IT FOR THOSE WITH CLL AND SLL TO ALSO DEVELOP AN AUTOIMMUNE DISORDER?

Estimates of developing an autoimmune disorder range widely from 4-30%, but it is likely closer to 4-10%. It is difficult to accurately determine the likelihood of developing an autoimmune disorder since the cancer varies greatly from person to person. However, the development of autoimmune disorders is more commonly seen in individuals with advanced disease, who are older, and have unfavorable biomarkers (including unmutated IGHV, 17p deletion, and TP53 mutation).

HOW ARE AUTOIMMUNE DISORDERS TREATED?

Getting prompt treatment is essential. The type of treatment required can vary depending on the underlying cause. Autoimmune disorders are usually managed with steroids given alone or in combination with an anti-CD20 monoclonal antibody (like rituximab). Autoimmune disorders can usually be well-controlled with the appropriate treatment. However, if the treatment is not sufficiently controlling the autoimmune disorder, then your healthcare team may consider treating the cancer which may help. Generally, treatments for autoimmune disorders are less toxic and easier to tolerate than treatments for CLL and SLL.

WHAT SHOULD I DO IF I SUSPECT I HAVE AN AUTOIMMUNE DISORDER?

It can be difficult to determine whether symptoms are caused by an autoimmune disorder, the progression of the cancer, or other factors. Therefore, it is crucial to seek medical attention immediately. Your healthcare provider will evaluate your symptoms, obtain further testing, and make appropriate referrals if necessary.

DO AUTOIMMUNE DISORDERS IMPACT LIFE EXPECTANCY?

Autoimmune conditions when left untreated can become life-threatening. However, most studies have found no reduction in the overall survival of those living with CLL and SLL who develop these conditions. When low blood cell counts are caused by an autoimmune disorder, the prognosis is generally better compared to when low blood cell counts occur due to the cancer progressing. Any autoimmune disorder can come back or "flair" after it is brought under control. Therefore, it is important to carefully monitor for recurrence and begin treatment promptly if the autoimmune disorder returns.

CLL SOCIETY MISSION

CLL Society is an inclusive, patient-centric, physician-curated nonprofit organization that addresses the unmet needs of the chronic lymphocytic leukemia and small lymphocytic lymphoma (CLL/SLL) community through patient education, advocacy, support, and research.