

Chronic lymphocytic leukaemia (CLL)

What is CLL?

Chronic lymphocytic leukaemia (CLL) is caused by defective lymphocytes (a type of white blood cell). Lymphocytes produced at a normal rate fight infection and manage the immune system, but if a defect is present their growth is halted just before they fully mature, which results in them failing to die off naturally. This leads to the slow accumulation of cells in the blood, bone marrow, lymph glands, liver and spleen.

Mature lymphocytes are made in the bone marrow, but normally circulate through the blood, lymph glands, liver and spleen. These organs may be enlarged because of CLL.

Causes

The cause of chronic lymphocytic leukaemia is unknown and there are no clear risk factors. However, there is a marked incidence of CLL among different racial groups. It is about 10 times more common in white people than it is among other ethnic groups.

Diagnosis

CLL is diagnosed using a blood test, taken either at the hospital or a GP's surgery. If the sample reveals an excess of lymphocytes, which are not caused by a viral infection, this could indicate the presence of CLL. People might also show a slight increase in lymph gland size throughout the body and sometimes the spleen is felt below the lowest left rib. If the disease is advanced the white cells, such as granulocytes, the red cells and platelets may also be reduced.

A closer analysis of the bone marrow is often carried out to confirm diagnosis and prognosis of CLL. A sample of bone marrow is taken from the hip bone and looked at under the microscope, using special tests involving immune markers, chromosome preparations and genetic studies. The immune markers show an increase in the B-cell population whilst some of the other tests give an indication of severity and prognosis.

Chest radiology is often done to exclude enlarged lymph glands in the chest and ensure the person has no pre-existing infections. An ultrasound or CT scan might also be carried out on the abdomen to investigate the presence or absence of lymph glands in the back of the belly, and to help quantify the size of the spleen.

Treatment

Many patients with CLL may not require active therapy at diagnosis and some may never require treatment. Someone who is well and has lymph glands that are not enlarged, a white cell count that is not rising rapidly and where the haemoglobin, neutrophil and platelet counts are normal, generally does not require treatment.

For the first twelve months the blood count is measured at intervals to determine whether or not the lymphocyte count is rising rapidly or the good cells are falling. If the lymphocyte count fails to double in the first 12 months of observation in people over 60 years old, there is evidence that life expectancy will not be reduced by the presence of CLL.

It is important for people diagnosed with CLL, where active therapy is not required, to still seek advice on lifestyle modification, particularly the management of weight, nutrition and stress avoidance in order to help improve overall health. They should also seek early medical attention if they develop viral or other infections and know how to recognise shingles or herpes zoster, two common viral infections associated with CLL.

The development of severe fatigue, weight loss, drenching night sweats, the rapid progression of lymph gland enlargement or obstruction of an important organ by lymph gland enlargement, a fall in red cells, neutrophils or platelets may indicate the need for therapy. A rising lymphocyte count on its own does not usually mean treatment is required so long as the remainder of the full blood count remains normal. Often an infection can cause a temporary rise in lymph cells but this does not necessarily imply deterioration.

Where active therapy is required there are a number of treatments that are used: chemotherapy, a stem cell or bone marrow transplant and a splenectomy, where the spleen is removed if it becomes enlarged, is seen to be attacking the normal cells in the body or contributing to an abnormal immune response which is destroying normal blood cells. Removing the spleen in patients who have longstanding CLL may increase the patient's ability to have more treatment.

For more information about this disease or a copy of our information booklet on CLL please contact lbf@leukaemia.org.nz or 0800 15 10 15.