Chronic eosinophilic leukaemia (CEL)

Chronic eosinophilic leukaemia (CEL) is a type of blood cancer. It affects white blood cells called eosinophils.

Summary

- Chronic eosinophilic leukaemia (CEL) is an extremely rare blood cancer. It affects white blood cells called eosinophils.
- We do not know the exact cause of CEL. It is not because of anything you have or have not done.
- CEL is diagnosed using blood tests and bone marrow tests.
- There are a number of treatment options your haematology team might consider. These might include:
    - Hydroxycarbamide
    - Interferon alfa
    - Imatinib
    - Steroids
    - A stem cell transplant
    - Treatment as part of clinical trial

Download our factsheet about CEL

What is chronic eosinophilic leukaemia (CEL)?

CEL is a type of blood cancer called a myeloproliferative neoplasm (MPN). These are slow-growing blood cancers that develop when cells in your bone marrow grow out of control and make too many blood cells.

CEL affects white blood cells called eosinophils. The cells don't develop properly and divide uncontrollably. This may stop your bone marrow from making enough healthy blood cells.

There are other very rare blood cancers that also cause high levels of eosinophils. These used to be classed as a type of CEL, but scientists now know that they are different conditions. These blood cancers have technical names based on gene changes in the cancer cells. People sometimes still call them CEL.

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What causes CEL?

CEL is extremely rare. This is why you might not have heard of CEL before. It mainly affects people between 50 and 70 years, but it can affect people of any age. It is more common in men than in women.

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Diagnosis of CEL

We do not know the exact cause of CEL. It is not because of anything you have or have not done.

People with CEL develop genetic changes in bone marrow cells called stem cells. Stem cells usually make all the blood cells your body needs. The genetic changes mean they don't work properly.

Most of these changes happen by chance during your lifetime. You did not get them from your parents and you cannot pass them to any children you have. In most cases we do not know why these genetic changes occur.

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Signs and symptoms of CEL

The signs and symptoms of CEL can vary from person to person. CEL can cause the following signs and symptoms:

- Swollen spleen or liver
- Extreme tiredness
- Shortness of breath, cough
- Swollen lymph nodes

- Feeling tired, breathless or dizzy due to a low red blood cell count (anaemia)
- Bruising or bleeding easily
- Losing weight without trying to
- Skin rash or skin problems
- Heart problems
- Fever
- Night sweats
- Diarrhoea, tummy pain or swelling

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Diagnosis of CEL

You'll have blood tests and bone marrow tests to diagnose CEL. The samples go to the lab for specialist testing.

Blood tests

You will have blood tests to:

- Measure your numbers of red blood cells, white blood cells and platelets. If you have CEL, you'll have high levels of abnormal eosinophils. You may have low levels of healthy blood cells.
- See how your blood cells look under a microscope. CEL cells look different to healthy eosinophils.
- Check how well your liver and kidneys are working.
- Look for markers of inflammation or organ damage.

Bone marrow tests

You may have a bone marrow test to confirm your diagnosis. This involves taking a sample of your bone marrow, usually from the back of your pelvis, with a local anaesthetic.

Lab tests

Your doctor will send your blood and bone marrow samples to the lab for specialist tests. They may check what genetic changes your leukaemia cells have.

Other tests you might have

You may have tests, X-rays or scans to check your heart, liver, spleen or lungs. Your team will let you know if you need these.

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Treatment for CEL

CEL can be difficult to treat. Because it is so rare, it is difficult for researchers to carry out trials to work out the best treatment for people with CEL. So, at the moment, there are no definite treatment guidelines.

Your haematology team will suggest the most suitable treatment for you based on:

- Your symptoms and test results
- Your age and overall fitness
- Whether or not you have any other medical conditions
- Your preference on how you wish to be treated

There are a number of treatment options they might consider. These include:

- **Hydroxycarbamide**. This is a chemotherapy medicine that helps lower your blood cell counts. It comes as tablets which you take by mouth.
- **Interferon alfa**. This is a medicine that alters the way your immune system works. It helps stop cancer cells from growing and dividing. You have it as an injection.
- **Imatinib**. This is a type of targeted therapy. It blocks a protein that encourages your bone marrow to make too many eosinophils. It comes as tablets or capsules that you take by mouth.
- **Steroids**. These can help lower the number of eosinophils and improve your symptoms and side effects. They usually come as tablets which you take by mouth.
- **Stem cell transplant**. This is where damaged or abnormal blood-forming cells are replaced with healthy ones from a matched donor. A stem cell transplant is intensive, and it is not suitable for everyone. Your team will only consider it if you are fit enough to have one, and a suitable donor is available. This may be a family member. You usually stay in hospital to have a stem cell transplant. Your team might suggest one if your CEL doesn't respond to treatment or comes back after treatment.

- **A clinical trial**. This is where new treatments, or different ways of using existing treatments, are tested to find out if they are better than standard treatments. If there is a clinical trial suitable for you, your team should explain what it involves and the risks and benefits of it. It is your choice whether to take part.

You might also have medicine to prevent or treat symptoms or side effects.

Sometimes, CEL can transform into a faster-growing type of blood cancer called acute myeloid leukaemia. If this happens, your medical team will let you know what treatment you will have and what to expect.

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Sources we used to develop this information

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Need support?

You are not alone. We're here for you whether you have a diagnosis yourself or know someone who has. If you'd like advice, support, or a listening ear, call our freephone helpline on 08088 010 444 or send a WhatsApp message to 07500 068 065.

Helpline and WhatsApp →

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