

Therapy Guide

Acute Myeloid Leukaemia (AML)

GKA.

The GKA Difference

AML has additional challenges for healthcare market research as it is a relatively rare condition, affects older patients and, given the side effects, it can be particularly debilitating. GKA conducts numerous studies every year, so have a trusted team of finders and close links with support groups to overcome many of these challenge. GKA has a close relationship with its panel of Medical and Clinical Oncologists and Specialist Oncology nurses which means they are able to successfully help identify patients.

The number of patients and healthcare professionals that GKA has been in contact with over the years means that the team really understand the challenges faced by people with AML and are able to act in a sensitive manner when it comes to connecting with respondents. The expertise within the team means they can quickly identify the best research methods to use – be it online or face-to-face interviews – to gather the desired cohort of respondents.



The Lowdown

Leukaemia is a cancer of the white blood cells and bone marrow. It is a complicated disease developing at different speeds and affecting different types of white blood cells. As white blood cells are found in the lymph nodes and spleen, they can be affected by the cancer too. It can also be found in other organs in the body².

One of the most common types of leukaemia in adults is acute myeloid leukaemia (AML), which occurs when white blood cells – in particular lymphocytes and myeloid cells - become cancerous³.

Some facts about AML



2,500

People are diagnosed with AML in the UK each year¹



Bone Marrow Biopsy is how AML is diagnosed



>65 years

are the most affected by AML



Boys >Girls

In children, boys are more affected by AML than girls

AML usually develops very quickly; over a matter of days or weeks. In AML, the bone marrow starts to make too many white blood cells and because these cells do not fully develop, they do not work properly. If there are too many white blood cells in the bone marrow, there is less room for other types of blood cells such as red blood cells and platelets. Poor quality white blood cells can make it harder to fight infections.

Given that AML is such an aggressive condition that progresses so rapidly, it requires speedy intervention and treatment⁴.

Understanding AML

AML is a relatively rare type of cancer; around 2,500 people are diagnosed with the disease each year in the UK⁵. It can affect people at any age but is more common in people over 65. Nevertheless, AML accounts for 15 in every 100 of all cases of childhood leukaemia and, interestingly, it affects slightly more boys than girls⁶.

Causes



AML itself is caused by a DNA mutation in the stem cells responsible for producing red blood cells, platelets and, more importantly, the white blood cells⁷. While research into possible causes is going on all the time, the reasons why a person develops the mutations that lead to AML are not clear. However, there are a number of factors that may increase a person's risk of developing AML. These include: exposure to radiation; smoking; exposure to the industrial solvent benzene; some cancer treatments; certain blood disorders; and possibly genetic disorders⁸.

Symptoms



Most symptoms of AML are vague and non-specific, which can make it harder to spot in the early states. The main symptoms are⁹:

- Looking pale, feeling tired and breathless, and symptoms of anaemia, which is caused by a lack of red blood cells
- Picking up more infections than usual, which is due to a lack of healthy white blood cells
- Unexplained bruises and bleeding such as heavy periods, bleeding gums, nosebleeds and blood spots on the skin (petechiae), which is caused by too few platelets
- Feeling generally unwell and run down
- Fever and sweats, which may be due to an infection or the leukaemia itself

Other symptoms, which are less wide-spread, include aching bones due to the build-up of cells and swollen gums caused by the presence of leukaemia cells¹⁰. In rare cases of AML, the affected cells spread into the central nervous system, leading to headaches, fits (seizures), vomiting, blurred vision and dizziness¹¹. Symptoms generally start to appear over a matter of weeks, with the onset of feeling ill coming on quite quickly. Occasionally, however, a person may show no symptoms at all and the leukaemia is only picked up during a routine blood test.



Diagnosis



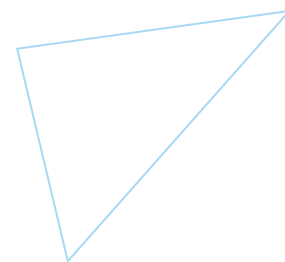
The first step in diagnosing AML is a blood test – usually performed by the GP. If the blood test reveals a high number of abnormal white blood cells or a very low blood count in the test sample, the patient will usually be sent to a hospital where a haematologist will carry out further tests.

To confirm a diagnosis of AML, the next step is a bone marrow biopsy. Carried out under local anaesthetic, a sample of liquid bone marrow is removed and screened for the cancerous cells. The type of leukaemia can then also be diagnosed¹².

Additional tests will then be used to determine the exact type, the progress and the extent of the disease. A lumbar puncture may be used to see if the disease has moved into the central nervous system while genetic testing is used to identify variation of the AML as this may well inform the type of treatment used. For example, patients with acute promyelocytic leukaemia are known to respond well to a medicine called All Trans-Retinoic Acid (ATRA)¹³.

Patients with AML may also be given a computerised tomography scan, X-ray or echocardiogram to check the health of the internal organs.

Treating AML



AML is an aggressive cancer so treatment is usually started as soon after diagnosis as possible. It is normally carried out in two stages: induction, which sets out to kill as many leukaemia cells as possible; and consolidation, which aims to prevent the cancer returning. The induction stage sometimes has to be repeated before consolidation can begin¹⁴.

At the heart of the induction phase, which lasts from four weeks to a couple of months, is intensive chemotherapy, regular blood transfusions and careful monitoring for signs of infection¹⁵. The most commonly used induction chemotherapy drugs are¹⁶:

- Cytarabine
- Daunorubicin
- Mitoxantrone
- Etoposide
- Idarubicin
- Fludarabine

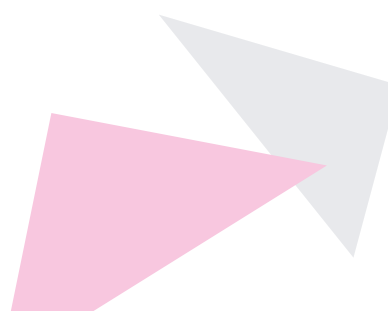
As a high dose chemotherapy medication is usually delivered intravenously and patients tend to require close medical supervision, the treatment is usually given in hospital or in a specialist centre. The chemotherapy is supported by regular blood transfusions to maintain an acceptable level of healthy blood cells. At the same time, as the patient will be vulnerable to infections, they will be closely watched and should they show any sign of developing an infection, they may be

prescribed antibiotics. The consolidation phase of treatment, which lasts several months, involves regular injections of chemotherapy medication, that are usually given on an outpatient basis.

In some cases, the patient is not well enough to tolerate an intensive programme of chemotherapy so they undergo a modified treatment programme that involves lower doses of the same combination of medications.

If chemotherapy isn't successful an alternative is a bone marrow or stem cell transplant. A stem cell transplant involves destroying any unhealthy blood cells and replacing them with stem cells removed from the blood or bone marrow. The donated stem cells are given through a tube into a blood vessel¹⁸.

Radiotherapy is not often used when treating AML. However, patients who need a stem cell transplant will be given a total body irradiation to destroy the bone marrow cells¹⁷.



References

- 1, 5 - <http://www.macmillan.org.uk/Cancerinformation/Cancertypes/Leukaemiaacutemyeloid/AboutAML/WhatisAML.aspx>
- 2 - <http://www.cancerresearchuk.org/about-cancer/type/aml/about/the-blood-and-acute-myeloid-leukaemia>
- 3, 4 - <http://www.nhs.uk/Conditions/Leukaemia-acute/Pages/Introduction.aspx>
- 6 - <https://leukaemialymphomaresearch.org.uk/information/childhood-leukaemia/acute-myeloid-leukaemia>
- 7 - <http://www.nhs.uk/Conditions/Leukaemia-acute/Pages/Causes.aspx>
- 8 - <http://www.macmillan.org.uk/Cancerinformation/Cancertypes/Leukaemiaacutemyeloid/AboutAML/Causes.aspx>
- 9, 10 - <http://www.macmillan.org.uk/Cancerinformation/Cancertypes/Leukaemiaacutemyeloid/Symptomsdiagnosis/Symptoms.aspx>
- 11 - <http://www.nhs.uk/Conditions/Leukaemia-acute/Pages/Symptoms.aspx>
- 12, 13 - <http://www.nhs.uk/Conditions/Leukaemia-acute/Pages/Diagnosis.aspx>
- 14, 15 - <http://www.nhs.uk/Conditions/Leukaemia-acute/Pages/Treatment.aspx>
- 16 - <http://www.macmillan.org.uk/Cancerinformation/Cancertypes/Leukaemiaacutemyeloid/TreatingAML/Chemotherapy.aspx>
- 17 - <http://www.macmillan.org.uk/Cancerinformation/Cancertypes/Leukaemiaacutemyeloid/TreatingAML/Radiotherapy.aspx>
- 18 - <https://www.nhs.uk/conditions/stem-cell-transplant/>





We are GKA.

If you have been asked to carry out a healthcare market research study surrounding AML or one of the related conditions, why not give us a call today?

+44 (0)1242 220420
quotes@gilliankenny.com
gilliankenny.com

