FACT SHEET

Adult T-Cell Leukaemia-Lymphoma (ATLL)

OVERVIEW

Lymphoma is the 6th most common cancer in Australia in adult men and women. It can affect people of all ages and is the most common blood cancer. Lymphoma is a cancer of the immune system and effects lymphocytes which are a type of white blood cell. When lymphocytes gain DNA mutations they divide and grow uncontrollably resulting in lymphoma.

There are two main types of lymphocytes called B lymphocytes (B-cells) and T lymphocytes (T-cells). Lymphomas caused by B-cells are more common and account for around 85% of lymphoma cases and lymphomas caused by T-cells account for around 15% of lymphoma cases. The first lymphoma to be discovered was called "Hodgkin lymphoma" (around 15% of all B-cell lymphomas), after Thomas Hodgkin, who described it. All subsequent lymphomas discovered were called "non-Hodgkin lymphoma" (around 90% of all lymphomas, both B-cell & T-cell lymphomas).

There are over 80 different subtypes of lymphoma, that are classified according to its clinical behaviour. "Aggressive" (high grade or fast growing) lymphomas are those that grow quickly, usually weeks to months and need treatment immediately. "Indolent" (low grade or slow growing) lymphomas usually develop over years and often are not treated straight away but are monitored. It is important to know your subtype of lymphoma. Lymphoma cells can travel to any part of the body and be found in lymph nodes, the bone marrow, the spleen, blood, bone, skin and almost any organ or tissue.

Adult T-cell Leukaemia-Lymphoma (ATLL) is a rare and often fast-growing T-cell lymphoma, that can be found in the blood, lymph nodes, skin, and other areas of the body. ATLL T-cells are found in the peripheral circulating blood (leukaemia), in the lymph nodes, or in both. The involvement of a gland called the thymus gland and the bone marrow are common, which is where the term leukaemia-lymphoma comes from. It can be a very confusing disease because it gets tangled up with terms that are similar in other subtypes of lymphoma such as acute lymphoblastic lymphoma and acute lymphoblastic leukemia. ATLL is linked to the viral infection, HTLV-1 (human T-cell lymphotropic virus 1). It is slightly more common in men than women and can occur from young adulthood through to old age.

TYPES OF ATLL

There are four subtypes of ATLL, that are rare in in countries such as Australia and North America. It is more prevalent in countries where infection with HTLV-1 is common such as Japan, China, the Caribbean, Central and South America and West Africa.

Acute: an aggressive subtype of ATLL, where symptoms develop rapidly and may include fatigue, skin rash and enlarged lymph nodes in the neck, underarm or groin. The hallmarks of acute ATLL are a high white blood cell count often accompanied by elevated calcium levels in the blood (hypercalcemia), which can cause irregular heart rhythms and severe constipation.

Lymphomatous: an aggressive subtype of ATLL, where symptoms also develop rapidly and may include fatigue, skin rash and enlarged lymph nodes of the neck, underarm or groin. Like in acute ATLL there may also be a high white cell count but not always.

Chronic: This slow-growing type of ATLL can result in elevated lymphocytes in the blood, enlarged lymph nodes, skin rash and fatigue. It can also be found in other areas of the body such as the spleen and liver.

Smouldering: This slow-growing type of ATLL is associated with very mild symptoms such as a few skin lesions.

DIAGNOSIS AND STAGING

Depending on the subtype, diagnosis of ATLL may require taking a small sample of tumour tissue, called a biopsy. A biopsy is a surgical procedure to remove part of or all of an affected lymph node or other abnormal tissue to look at it under the microscope. The biopsy can be done under local or general anaesthetic depending on what part of the body is being biopsied.

A blood test will also be necessary to measure the white blood cell count and calcium levels and to test for exposure to the HTLV-1 virus. Other tests may also be performed to see where else in the body the lymphoma may be. Other tests include:

- Positron Emission Tomography (PET) scan

- Computed Tomography (CT) scan
- Bone marrow biopsy

Staging is not used for ATLL, because it is spread throughout the body when first diagnosed. There is a system to classify ATLL as high-risk, standard or low-risk. It is important to stress that this refers to the chance of a good response giving standard treatment. If treatment is selected according to risk group, many patients with high-risk disease will do very well. It is also, unfortunately, not always true that a patient with low risk disease will do well. Most cases of ATLL are classed as high-risk and with appropriate treatment they have a very good chance of successful treatment.

TREATMENT OPTIONS

The treatment options used to treat ATLL are the same as those used to treat other types of T-cell lymphomas. Because ATLL is such a rare disease, there have not been enough people enrolled in clinical trials to establish treatment standards. Initial treatment approaches include combination chemotherapy and common treatments that include;

- CHOP (cyclophosphamide, doxorubicin, vincristine andprednisone)
- CHOEP (cyclophosphamide, doxorubicin, vincristine, etoposide and prednisone)
- Dose-adjusted EPOCH (etoposide, vincristine, doxorubicin, cyclophosphamide and prednisone)
- Hyper-CVAD (cyclophosphamide, vincristine, doxorubicin, and dexamethasone) alternating with high-dose methotrexate and cytarabine
- Stem cell transplantation may be appropriate following remission in some patients

Other treatments may include medications to treat the underlying HTLV-1 virus infection. This may be effective in patients with the slower-growing forms of ATLL with mild or no symptoms, that include:

- Monitoring without treatment, called “watch & wait”(see fact sheet)
- ATLL that affects the skin, direct skin therapy such as topical steroids or local radiation may be prescribed”

There are many regimens used to treat relapsed (when disease returns) ATLL, including:

- DHAP (dexamethasone, cytarabine and cisplatin)
- ESHAP (detoposide, methylprednisolone, cytarabine and cisplatin)
- GDP (gemcitabine, dexamethasone and cisplatin)
- ICE (ifosfamide, carboplatin and etoposide)

TREATMENTS UNDER INVESTIGATION

Many new individual and combination medicines are currently being tested in clinical trials around the world for both newly diagnosed and relapsed/refractory ATLL including;

- Belinostat (Beleodaq™)
- Bortezomib (Velcade™)
- Brentuximab Vedotin (Adcetris™)
- Lenalidomide (Revlimid™)
- Mogamulizumab (Poteligeo™)
- Nivolumab (Opdivo™)
- Pralatrexate (Folotyn™)
- Romidepsin (Istodax™)
- High-dose chemotherapy followed by allogeneic stem cell transplantation (in which patients receive stem cells from a donor).

CLINICAL TRIALS

Clinical trials are essential in identifying effective medicines and determining optimal doses of these medicines for people diagnosed with lymphoma. People who are interested in participating in a clinical trial can find one using the following methods:

1. Speak to their specialist to see what options are available
2. Go to the ClinTrial Refer website www.clintrial.org.au/ to search available clinical trials
3. Download the ClinTrial Refer app from the Apple or Android stores for your smart phone or device.
4. Blood Cancer Research Western Australia: www.bloodcancerwa.org.au/trials
5. See ‘Understanding Clinical Trials’ fact sheet, www.lymphoma.org.au/

FOLLOW UP

Once treatment is completed, people with lymphoma need to be followed up by their specialist with regular appointments to monitor:

- Evaluate the effectiveness of the treatment
- Ongoing treatment side effects
- Recovery from treatment
- Signs of lymphoma relapsing
- Potential late effects caused by treatment that can occur months or years later, that can be based on the duration and frequency of treatment, age, gender and overall health of each person

RESOURCES AND SUPPORT

Lymphoma Australia offers a wide variety of resources and support for people with lymphoma and their carers. Please visit our website www.lymphoma.org.au/ for further information.

SOME QUESTIONS TO ASK YOUR DOCTOR

- What subtype of ATLL do I have?
- What tests will I need to have?
- What are the treatment options for my ATLL?
- How long will my treatment last?
- What will the side effects be?
- Are there any clinical trials available for me currently?
- Are there any treatment options that are better for my type of lymphoma but are yet to be funded by the PBS in Australia?

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