

Follicular Lymphoma: Relapsed/Refractory

Overview

Lymphoma is the most common blood cancer. The two main forms of lymphoma are Hodgkin lymphoma (HL) and non-Hodgkin lymphoma (NHL). Lymphoma occurs when lymphocytes, a type of white blood cell, grow abnormally. The body has two main types of lymphocytes that can develop into lymphomas: B-lymphocytes (B-cells) and T-lymphocytes (T-cells). Cancerous lymphocytes can travel to many parts of the body, including the lymph nodes, spleen, bone marrow, blood or other organs, and can accumulate to form tumors.

Follicular lymphoma is typically a slow-growing, or indolent, form of NHL that arises from B-lymphocytes, making it one of the B-cell lymphomas. It is the second most common NHL and, in general, is not curable. This cancer, which accounts for roughly 20 percent to 30 percent of all NHLs, usually takes several years to develop. Often, the first sign of follicular lymphoma is a painless swelling in the neck, armpit or groin caused by enlarged lymph nodes. The lymph node enlargement can occur within the abdominal cavity and is often detected at a more advanced stage when that occurs. Some people also report loss of appetite and fatigue.

Much like other forms of cancer, follicular lymphoma may return after treatment. For those patients who become refractory (disease does not respond to treatment) or relapse (disease returns after treatment), secondary therapies may be successful in providing another remission.

This fact sheet covers treatments for relapsed or refractory follicular lymphoma that are approved or currently undergoing investigation within a clinical trial. It is critical to remember that science is moving quickly and that treatment advances are continuously being made. Therefore, information regarding the clinical trials or treatments listed may not be entirely up to date depending on when this information is being read. Patients should contact the Lymphoma Research Foundation or speak with their physician for potential treatment updates.

Treatment Options

The duration of remission from the last treatment received, along

with the symptoms produced by the cancer, will often influence what treatments your doctor may recommend at relapse.

Chemotherapy, radiation, and monoclonal antibodies, such as rituximab (Rituxan), may be used alone or in combination to treat relapsed or refractory follicular lymphoma.

Radioimmunotherapy may also be used alone or in combination with chemotherapy to treat relapsed or refractory follicular lymphoma. Radioimmunotherapy involves the attachment of a radioactive compound to a monoclonal antibody. This therapy delivers radiation directly to lymphoma cells that have a specific protein (CD20 antigen) on their surface. Hence, the tumor cell is killed by both the body's own immune system and radiation. Currently, two radioimmunotherapy drugs are commercially available: Iodine 131 tositumomab (Bexxar) and Y90 ibritumomab tiuxetan (Zevalin). While there are some differences between these two drugs, both produce remarkably similar clinical results with durable remissions when used in the correctly selected patient.

An additional agent used to treat relapsed or refractory follicular lymphoma is bendamustine (Treanda).

For some patients with relapsed follicular lymphoma, high dose chemotherapy and an autologous stem cell transplant (stem cell transplant in which a patient receives their own stem cells) or an allogeneic, or "mini"-allogeneic, stem cell transplant (stem cell transplant in which a patient receives stem cells from a donor) may provide a prolonged disease-free interval.

About 30 percent to 40 percent of all patients with follicular lymphoma will eventually develop a transformed lymphoma, often referred to as histologic transformation. These lymphomas are often more aggressive in their behavior and are usually treated with high-dose chemotherapy along with an autologous stem cell transplant. Other options include:

- Chemotherapy with or without rituximab (Rituxan)
- Radioimmunotherapy
- Radiation therapy

National Headquarters

115 Broadway, 13th Floor
New York, NY 10006
(212) 349-2910
(212) 349-2886 fax

Helpline: (800) 500-9976
Helpline@lymphoma.org

Website: lymphoma.org
Email: LRF@lymphoma.org

The Lymphoma Research Foundation offers the following patient education and support programs:

- Lymphoma Helpline
- Clinical Trials Information Service
- Lymphoma Support Network
- Publications
- Teleconferences
- Webcasts & podcasts
- In-person conferences

Medical reviewer:

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Rush University Medical Center

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Treatments Under Investigation

Many treatments are currently being tested in clinical trials for relapsed or refractory follicular lymphoma patients, including:

- Bortezomib (Velcade)
- Ofatumumab (Arzerra or HuMax-CD20)
- Lenalidomide (Revlimid)
- mTOR inhibitors

These clinical trials are in various phases of development. For a more thorough listing of treatments under investigation, visit the Lymphoma Research Foundation's website (lymphoma.org) to view or order the publication entitled *Understanding Non-Hodgkin Lymphoma: A Guide for Patients, Survivors and Loved Ones*.

Treatment options may change as new treatments are discovered and current treatments are improved. Therefore, it is important that patients check with the Lymphoma Research Foundation or their physician for any treatment updates that may have recently emerged.

Participating in Clinical Trials

Clinical trials are crucial for identifying effective drugs for lymphoma patients. Patients interested in participating in a clinical trial should talk to their physician. Contact the Lymphoma Research Foundation's *Helpline* for an individualized clinical trial search by calling (800) 500-9976 or emailing helpline@lymphoma.org.

Follow Up

Once treatment is completed, a follow-up care plan should be created by the patient's physician. The plan should provide a treatment summary, which includes information such as age and date of diagnosis, staging, the types of treatment administered and response to treatment. The plan should also indicate the type and frequency of medical tests that a survivor should routinely undergo over their lifespan. Lymphoma survivors should receive regular medical exams from a physician who is familiar with their medical history as well as the treatments they have received. Survivors and their caregivers are encouraged to keep copies of all medical records and test results as well as information on the types, amounts and duration of all treatments received. This documentation will be important for keeping track of any effects resulting from treatment or potential disease recurrences.

Finding Support

A lymphoma diagnosis may provide a range of feelings and raise many concerns. In addition, cancer treatment can cause physical and emotional discomfort. Connecting with other people who have lymphoma, or have been cured of it, can provide enormous relief. Support groups and online message boards are often useful. One-to-one peer support programs, such as the Lymphoma Research Foundation's Lymphoma Support Network, match lymphoma survivors (or caregivers) with volunteers who have gone through similar experiences.

Resources

The Lymphoma Research Foundation offers a wide range of resources that address treatment options, the latest research advances and how to cope with all aspects of lymphoma. The Foundation also provides many educational activities, from in-person meetings to teleconferences and webcasts. For more information about any of these resources, visit the website at lymphoma.org, e-mail the *Helpline* at helpline@lymphoma.org or call at (800) 500-9976.