

LYMPHOMA

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Lymphoma is a malignancy (cancer) of lymphocytes within lymph nodes. It can be localized to one area of the body (earliest stage) or involve many nodes or other organs throughout the body (advanced stages). From a microscopic or histologic standpoint, there are two major types; Hodgkin's lymphoma and non-Hodgkin's lymphoma (NHL). NHL is approximately 10 times more prevalent than Hodgkin's lymphoma. NHL is also more prevalent in the older age group with 85-90% of NHL developing after age 50 and peaking in the 70's (Figure 1).

Because NHL is more prevalent in the older population, and the general population is becoming older, NHL B-cell type is increasing 5-10% each year in the United States, over and above the incidence of cancer generally. The increase has also been detected in the Cancer Registry at Aultman Hospital (Figure 2).

Figure 1

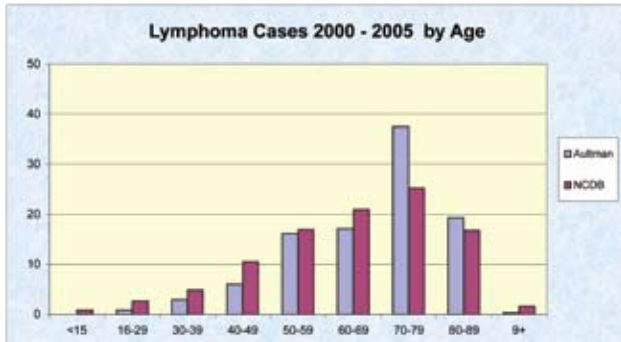


Figure 2

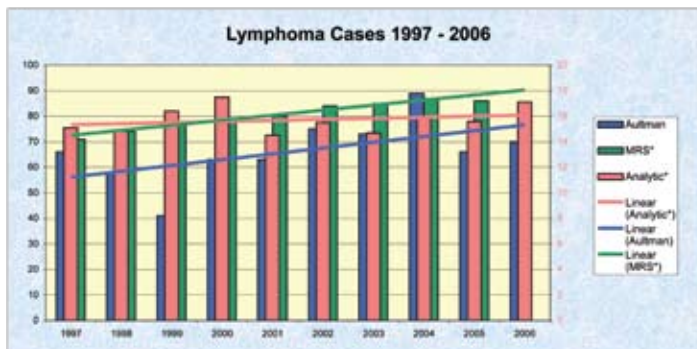


Table 1

HISTOLOGY OF NON-HODGKINS LYMPHOMA CANCER DIAGNOSED 2000-2005

Aultman Hospital vs 1352 U.S.Hospitals

HISTOLOGY	% Percent	
	SUM	
	Reported By	
	Aultman	NCDB*
Malignant Lymphoma, NOS	4	6
Malignant Lymphoma, Non-Hodgkins, NOS	5	8
Small Lymphocytic Malignant Lymphoma, NOS	13	6
Lymphocytic, Intermediate Differentiation, Diffuse Malignant Lymphoma	5	4
Large Cell, Diffuse Malignant Lymphoma, NOS	39	36
Follicular Malignant Lymphoma, NOS	6	7
Mixed Small Cleaved & Large Cell, Follicular Lymphoma	3	4
Small Cleaved Cell, Follicular Lymphoma	9	6
Large Cell, Follicular Malignant Lymphoma NOS	6	3
Monocytoid B-Cell Lymphoma	3	7
Other Specified Types	8	13
TOTAL	100	100

*NCDB = National Cancer Data Base

Aultman Cancer Registry 11/07

The diagnosis can be suspected clinically, but a biopsy of lymph nodes, bone marrow or other sites will be necessary not only confirm the diagnosis of NHL but to ascertain the specific subtype and the extent (stage) of the disorder. There are eight recognizable forms of B lymphocytic NHL (Table 1). Follicular lymphoma and diffuse large B cell lymphoma (DLBCL) are the two most common, representing 22% and 36% respectively of the total. Of B cell NHL follicular lymphomas, 70% are low grade and progress slowly. All B cell lymphomas have a unique surface protein termed CD20. The CD20 protein is significant in separating it from the less common NHL referred to as “T cell” lymphoma. Most NHL’s are composed of B type lymphocytes, with the remaining minority being the more aggressive T cell. Our Cancer Registry as well as the National Cancer Data Base (NCDB) places all NHL lymphomas in the categories in Table 1. This table also shows the percent of cases in each group in the Aultman Registry as compared to similar data from the NCDB.

Treatment of very early single site, low grade NHL can frequently be cured by radiation therapy. Treatment of more aggressive or widespread disease in the past utilized 1 or 2 non-specific chemotherapeutic agents which suppressed the lymphoma and perhaps relieved symptoms but did not improve overall survival. Over the past ten years, more effective targeted therapy has been developed. If the patient is asymptomatic and the disease is not progressing, a “watch and wait” stance without therapy is taken. However, with progression and/or the development of symptoms, the newer treatments are being utilized. These treatments consist of a combination of standard chemotherapy of CHOP (Cytosan, Hydroxydaunorubicin, Oncovin, Prednisone) or COP (Cytosan, Oncovin, Prednisone) plus Rituxan. Rituxan is a monoclonal synthesized antibody “targeted” at a specific and constant protein on the B lymphocyte termed CD20. Rituxan

plus these drug combinations have revolutionized the treatment of patients with follicular lymphoma resulting in a prolongation of survival with acceptable toxicity. These therapies are being effectively employed at the Aultman Cancer Center and our recent five year survival data is comparable to NCDB data (data not shown).

The prognosis for each NHL B cell follicular lymphoma is variable but can be estimated by a prognostic factor model called FLIPi (Follicular Lymphoma Prognostic Index). This index utilizes the numbers of nodal sites involved, age, serum LDH, and hemoglobin. The larger the score of 1, 2, or 3 predicts a worse prognosis. Those patients with lower scores and lacking symptoms can be followed without therapy, i.e. “watch and wait”. Treatment, when used, would likely include Rituxan and/or combination therapy (see above).

Patients with a poor prognosis FLIPi score but otherwise in good health status, may benefit from an autologous or allogeneic stem cell transplant, a more aggressive and potentially curative therapy. Unfortunately, many of these lymphomas occur in older individuals with co-morbid diseases that prevent this therapeutic approach.

This brief review supports the conclusion that (1) the absolute number of NHL patients is increasing at Aultman Hospital similarly to increase noted in a much larger reference registry (MRS), (2) the age distribution of NHL is similar to that found by the National Cancer Data Base and (3) the most recent advances in chemotherapy are being used at Aultman Hospital as reflected in Tumor Board reviews.