Management of Non-Hodgkin's Lymphoma in Adults

Essay Submitted for Partial Fulfillment of M.Sc. Degree
in
Radiation Oncology and Nuclear Medicine

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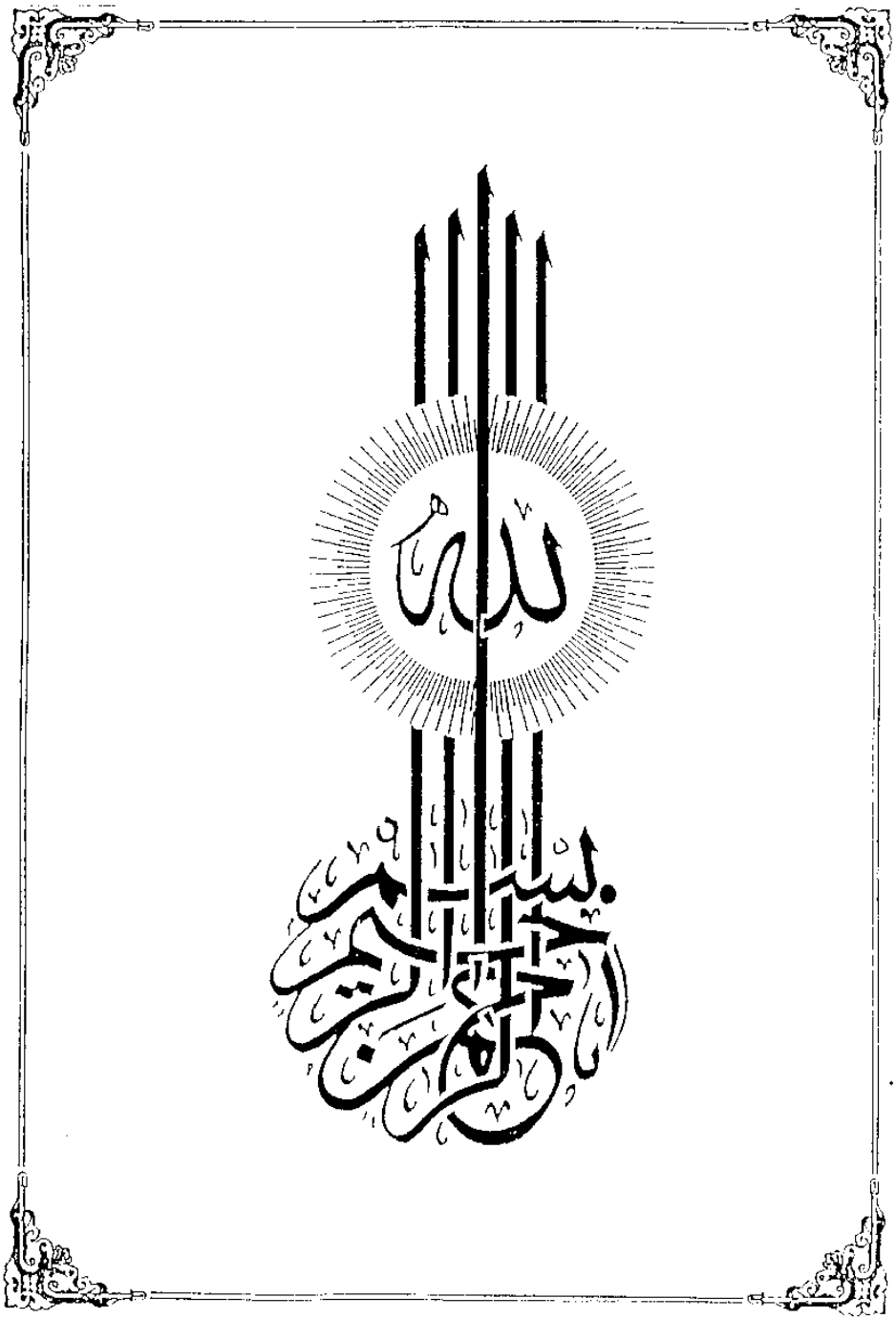
To my parents

and

to my husband



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First of all thanks to God

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Dina Ragab Diab

Contents

List of Abbreviations

ABMT	Autologous Bone Marrow Transplantation
AIDS	Acquired Immuno Deficiency Syndrome
ATLL	Adult T-cell Leukemia-Lymphoma
BL	Burkitt's Lymphoma
CD	Cluster of Differentiation
CLI	Comprehensive Lymphatic Irradiation
CNS	Central Nervous System
CT	Computed Tomography
CTR	Connecticut Tumor Registry
EBV	Epstein-Barr Virus
HD	Hodgkin's Disease
HIV	Human Immuno-deficiency Virus
HTLV-I	Human T-cell Leukaemia-lymphoma Virus
NCI	National Cancer Institute
NHL	Non Hodghin's Lymphoma
OR	Odd Ratio
RR	Relative Risk
SEER	Surveillance, Epidemiology and End Result Program
TBI	Total Body Irradiation
UCLA	University of California at Los Angeles
WF	Working Formulation

INTRODUCTION AND AIM OF THE WORK

Introduction and Aim of the Work

NHLs are heterogenous group of lymphoid malignancies. They are morphologically diverse, but are recognizable as lymphoid in origin. (Sarna and Kagan, 1990)

NHLs arise in lymphoid tissue, usually in the lymph nodes (65% of cases), or less frequently in the lymphoid tissue of parenchymal organs (35%). (Kumar et al., 1992)

The median age of occurrence is approximately 50 years. Nodular lymphomas are rarely seen below the age of 25 years. The male to female ratio is approximately 1.7 to 1. (Wasserman and Glatstein, 1992)

Incidence of lymphomas appears to be increasing although the cause remains unknown, however it may be due to exposure to viruses, radiation, chromosomal aberrations and immunosuppression. (Pearce et al., 1992)

NHLs may present as nodal or extranodal disease with or without constitutional symptoms which signify a poor prognosis. (Sarna and Kagan, 1990)

NHLs share a responsiveness to radiation therapy and chemotherapy while role of surgery is not well defined. Combined modality therapy appears superior to local therapy alone for patients with extranodal disease characterized by unfavorable histology, site or stage. (Sarna and Kagan, 1990) Recently, biologic response modifies including α interferon can be used to improve response rates achieved with standard therapy. (Gilwesli et al., 1990)

Bone marrow transplantation has now become the most established curative option in patients who fail to achieve complete remission or who relapse following initial chemotherapy in aggressive lymphomas. (Fisher et al., 1990)

Aim of the Work:

Is to revise a recent review on the clinicopathological aspects and management of **NHL** in adults.

EPIDEMIOLOGY AND ETIOLOGY

Epidemiology

The epidemiology of NHL is poorly characterized, and little is known about factors which increase person's risk of developing one of these tumors. (Davis, 1992)

According to the incidence data from the Surveillance, Epidemiology and End Result Program (SEER) of the National Cancer Institute (NCI), incidence rates of NHL have been increasing. (Devesa, 1992) The 50% increase in incidence between 1973 and 1988 reported by the American Cancer Society was one of the largest increases reported for any cancer. (Devesa 1987 and Ries, 1991) During the 1980s, a large portion of this increase has been attributed to the NHL developing in association with the acquired immunodeficiency syndrome (AIDS). (Longo et al., 1993)

At Ain Shams Radiotherapy and Nuclear Medicine Department the total number of NHL cases in last 5 years (1989 - 1993) is 328 with an incidence of about 62% in relation to the total number of lymphomatous cases in general.

Figure 1

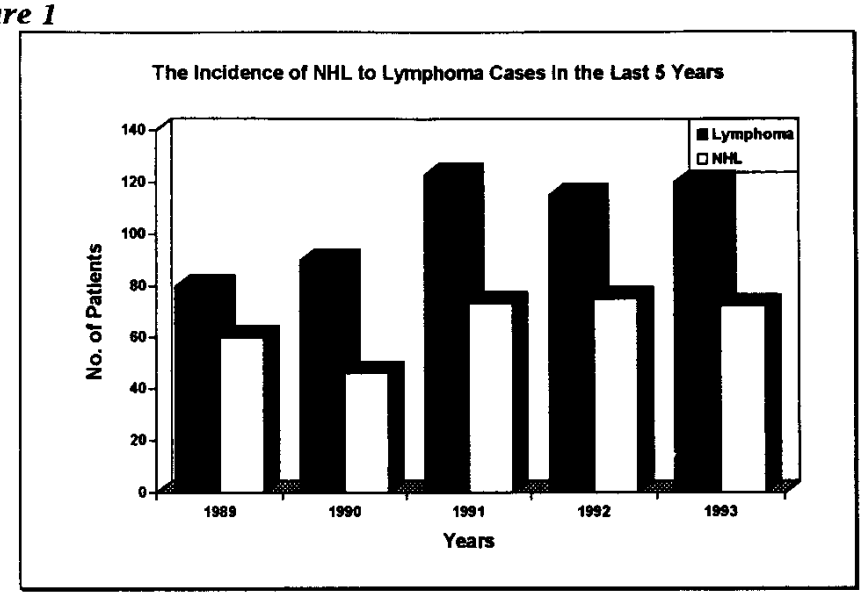
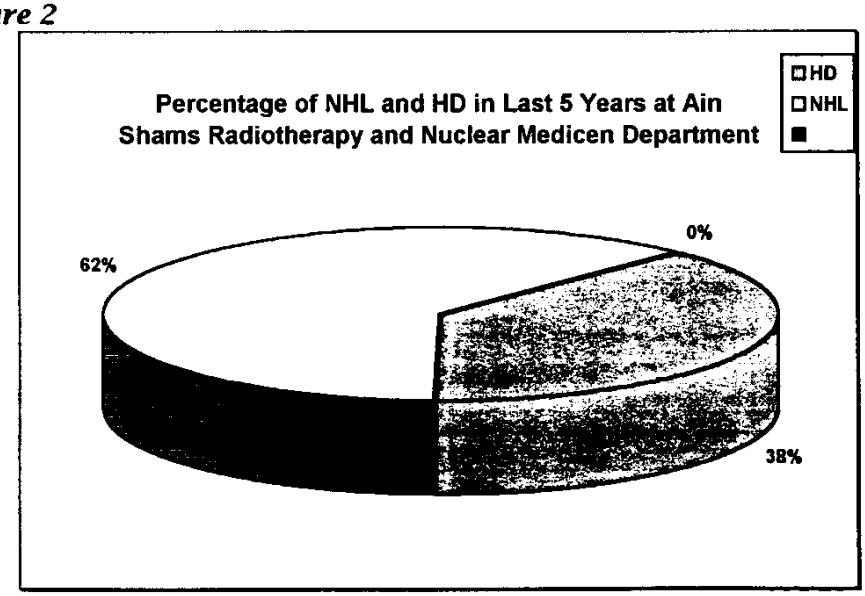
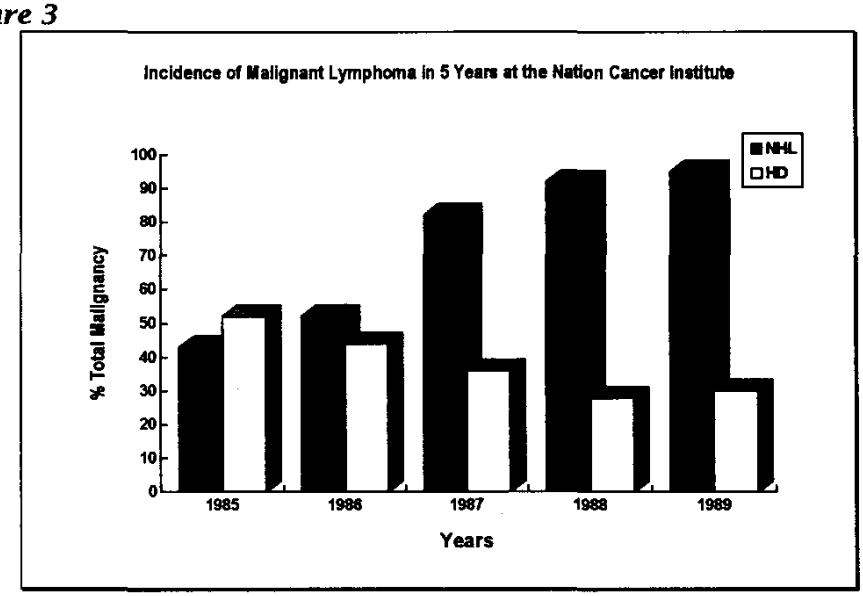


Figure 2



At the National Cancer Institute, the annual variability of lymphoma during the period from 1985 - 1989 ranged from 9.53% to 12.23% of total malignancy with a gradual increase notably of NHL compared with HD.

Figure 3



Mortality rates form NHL have been increasing for many years, where they represent the seventh most cause of death from cancer in the United States. (American Cancer Society, 1992) In 1992, approximately 41,000 new cases were diagnosed and there were approximately 19,400 deaths from the disease. (Longo et al., 1993)

From the incidence data from the (SEER) program of the (NCI) of the United States, urban / rural and socioeconomic differences have diminished over time. (Devesa, 1992)

Also differences between races persist where incidence is higher in whites than blacks as reported by a study of incidence pattern of NHL reported to Connecticut Tumor Registry (CTR) between 1935 and 1988. (Zheng et al., 1992) The incidence of NHL among white men in the United States was measured as 6.9/100,000 person-year in 1947 - 1950 and as 17.4 in 1984 - 1988. (Hartage, 1992)

Age

Lymphomas rank the fourth in terms of economic impact among cancers in the United States, where the young average age of lymphoma population is 42 years. (Longo et al., 1993)

In a study based on all NHL cases reported to Connecticut Tumor Registry (CTR) between 1935 and 1988, a total of 11.326 newly diagnosed NHL were included in the study. Age specific incidence rates in both sexes, suggested that the rates increase with age with a sharp increase beginning at 50 years of age and peaking at 80 years of age. (Zheng, 1992)