MANAGEMENT OF HODGKIN'S DISEASE IN ADULT

Essay
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in
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by

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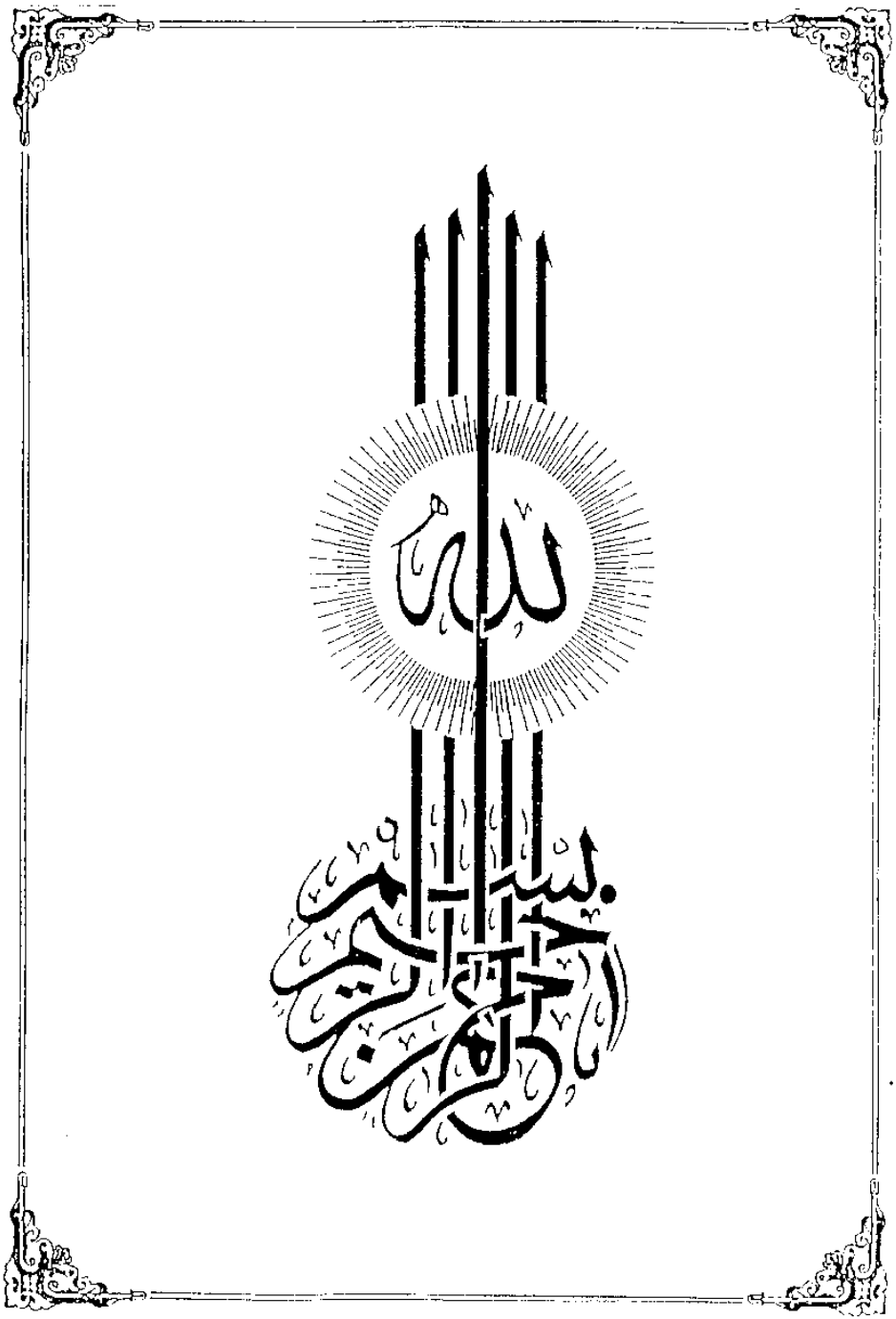

To my parents
and
to my sisters

and to whom I love

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first of all thanks to God

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INTRODUCTION AND AIM OF TEH WORK

Hodgkin's disease is relatively uncommon over all, although it is one of the most common neoplasms in young adults. It composes 1 percent of all cancers and 25 percent of malignant Lymphomas (Haskell C.M. et al., 1991).

Most patients with Hodgkin's disease present to their physicians with superficial adenopathy and are asymptomatic. It is sometimes detected during a physical examination for another reason (Hellman S. et al., 1989).

The extreme radiation responsiveness of the Lymphomas was noted shortly after the discovery of x-rays. Although low doses of radiation cause tumor to disappear, high doses are required to ablate them permanently (Hellman S. et al., 1993).

The adaptation of modern supervoltage techniques for the treatment of Hodgkin's disease for the first time allowed high doses of radiation to be given in extensive volumes, and careful beam direction and shielding allowed such treatment to be tolerated by normal tissues (Hanks G.E. et al., 1982).

Hodgkin's disease is exquisitely sensitive to chemotherapy, possibly because of a high tumor cell growth fraction (> 50 percent) as measured by immunohistochemistry. Consequently, when chemotherapy is employed it is almost always given with curative intent, not simply for palliation (Haskell C.M. et al., 1991).

The techniques of combining radiation and chemotherapy vary. While some studies adminster all the radiation and then all the chemotherapy, others divide the chemotherapy, giving the radiation after two or three cycles, and then finally completing the chemotherapy. An important principle of treatment is to be sure that at least one treatment modality is administered with appropriate time-dose consideration and the other serves as an adjuvant (Hellman S. et al., 1993).

The goal of treatment is to cure the most patients with the least therapy in order to avoid complications to the greatest extent possible (Hellman S. et al., 1989).

Aim of The Work:

Is to revise a recent review on the clinico-pathological aspects and management of Hodgkin's disease in adult.

List of Abbreviations

BNLI	=	British National Lymphoma Investigations
NHL	=	Non Hodgkin's Lymphoma
MRI	=	Magnetic Resonance Imaging
CNS	=	Central Nervous System
PML	=	Progressive Multifocal Leukoencephalopathy
ESR	=	Erythrocytic Sedimentation Rate
LN	=	Lymph Node
CT	=	Computed Tomography
SPECT	=	Single Photon Emession Computed Tomography
JCRT	=	Joint Center for Radiation Therapy
ACC	=	Alternating Cyclic Combinations
ABMT	=	Autologous Bone Marrow Transplantation
AIDS	=	Aquired Immuno-Deficiency Syndrome
HD	=	Hodgkin's Disease
LP	=	Lymphocytic Predominance
NS	=	Nodular Sclerosis
MC	=	Mixed Cellularity
LD	=	Lymphocytic Depletion
DCS	=	Data Collection Study
EBV	=	Epstein-Barr Virus
RSC	=	Reed-Sternberg Cell
HIV	=	Human Immuno-deficiency Virus
UK	=	United Kingdom
TNI	=	Total Nodal irradiation
SNI	=	Subtotal Nodal Irradiation

Review of Literature

EPIDEMIOLOGY & ETIOLOGY

Althoug Hodgkin's disease (**HD**) represents **1%** of all tumors, its incidence inreases to 3.7% when only subjects under the age of 14 are considered, and reaches 9% - 17% if only subject between 15 - 34 years are taken into account. The frequency further increases to 93% when related to lymphomas in general and to 66% if only lymphomatous patients under the age of 35 are taken into consideration. (Quaglino D et al., 1992)

In economically underdeveloped countries the overall incidence of **HD** is lower than in developed countries, but incidence before the age of 15 is higher, with only a modest increase throughout adoliscence and young adult hood. (correa et al., 1973). Internationally the age standardised incidence rates vary widely, with lowest rates among Asian populations including China and Japan, and generally high rates in both North and South America, in Europe and Israel. Within some countries, as in United States, some racial differences have been seen, with Jews over the age of 50 showing an incidence almost double compared to others. In other countries, for instance Denmark, the disease is more frequent in the younger age group, while in Japan the contrary is true (Quaglino D. et al, 1992). At Ain Shams Radiotherapy and Nuclear Medicine Departement the total number of **HD** cases in last 4 years (1989 - 1992) is 144 cases with an incidence of about 2.9% in relation to the total number of

cases presented to the departement and an incidence of about 35% in relation to the total number of lymphomatous cases in general (Fig. 1). The sex incidence shows a male predominance with the male/female ratio around 2.2:1.

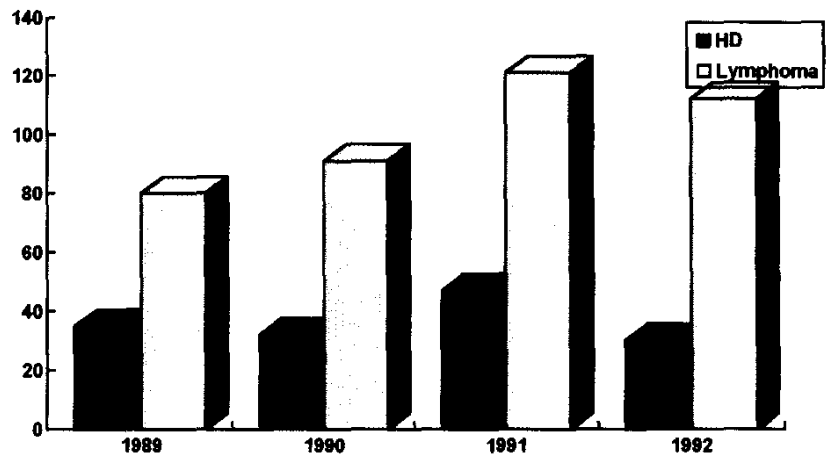

Fig. 1: The incidence of HD cases to the whole number of lymphomatous cases in the last four years (1989-1992) presented at Ain Shams Radiotherapy and Nuclear Medicine Department.

From studies of the geographical incidence of the disease four different types of epidemiological distribution have been distinguished: **Type 1** is present in developing countries (Southern and Central America, East Africa) and is characterized by a relatively higher incidence and mortality in children, a low incidence in the middle-age group (**30 - 40**) and a second peak of increased incidence in subjects over 50 years of age. In these economically disadvantaged countries

the disease tends to be more aggressive and the lymphocytic depletion type, wich carries the worst prognosis, is relatively more frequent in children and females. **Type 3** predominates in the urban communities of the more highly industrialised countries of Europe and North America: it affects more adults than children and shows two peaks of incidence: the prevailing histological variant is nodular sclerosis. This is the only variant in which the sharp peak of high incidence in young adults is clearly apparent in both sexes. **Type 2** has an intermediate behaviour, being more frequent in the rural areas of developed countries and in some Central European Nations (Hungary, Poland, Jugoslavia). It differs from type 3 in showing a greater frequency in young boys than in adults, with the young adult peak discernable in females scarcely visible in males. **Type 4**, observed in Japan, India, Singapore and perhaps China is characterised by a low incidence in all age groups and in particular in young adults: mixed cellularity is the most frrquent histological type (Quaglino D. et al., 1992).

If the frequency of the disease is related to the age, the curve obtained shows a bimodal behaviour with two peaks, the first between the ages of 15 and 34 and the second, less prominent, in the sixth and seventh decades. In the **Leukaemia Research Fund's Data Collection Study (DCS)** of leukaemia and lymphoma incidence in parts of the **UK**, 1799