

Hodgkin's Lymphoma: An Epidemiological Study in the Iraqi Patients

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ABSTRACT:

BACKGROUND:

This work presents an epidemiological approach used to deal and study Hodgkin's lymphoma (HL) in the Iraqi patients.

METHODS:

This study was carried out for 80 newly diagnosed HL patients (32 females and 48 males), compared with 50 Non Hodgkin lymphoma (NHL) patients control and 50 healthy individuals considered as healthy control in period between 1st of Jun 2003, and 30th of November, 2004. Newly diagnosed HL histopathological samples were taken and diagnosed as HL according to the National Cancer Institute Working Formula. All patients were subjected to personal interview using especially designed questionnaire format.

RESULTS:

In this study the age of HL patients ranged between 10-73 years with a mean age of (29.31 ± 1.73) years. There was slight males predominance among HL patients 48 (60%) than females 32 (40%). The age incidence below (45) years old forming 67 (84%), versus 13 (16%) incidence above 45 years.

The cervical lymph node enlarged was commonly found (70%) and the main clinical presentation was of A symptom (27%) in HL patients. The highest subtype number was recorded in mixed cellularity (MC) (61%) and stage II (38%). There was no significant association between cigarette smoking and risk of HD ($p > 0.05$).

CONCLUSION:

Such epidemiological study can be performed at any hospital especially in hospitals where lymphoma cases is increased.

KEY WORD: Hodgkin's lymphoma, Epidemiology, Hodgkin's disease

INTRODUCTION:

Hodgkin's disease is a malignant lymphoma with a characteristic epidemiology⁽¹⁾. The distinguishing epidemiologic feature of HD is its bimodal age distribution curve⁽²⁾. In the United States and other economically advantaged countries, there are two incidence peaks one in young adults and one in older age⁽³⁾. Nodular sclerosis (NS) is the predominant histologic subtype in developed countries, and accounts for most of the peak in young adults, moreover there is a male predominance, especially in children and in middle and older adulthood⁽²⁾. Approximately 7500 new cases of HD and about

1500 deaths due to HD occur in the United States annually, the bimodal age distribution of HD is different in economically low developed areas. There is an initial peak in childhood for boys, relatively low rates in young adults and a late peak in older adults, while mixed cellularity (MC) is more frequent in children and older adults⁽⁴⁾.

Hodgkin's disease presents as a painless mass in approximately 70 percent of cases. The most common involved site is in the neck⁽⁵⁾. Moreover, a significant proportion of patients with HD develops systemic symptoms prior to the discovery of lymphadenopathy. Typical symptoms, called B symptoms, include fever, night sweats and weight loss⁽²⁾.

Tobacco is the most prominent cause of respiratory cancers, however little is known about the influence of smoking on haematolymphopoietic malignancies.

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Many studies propose that cigarette smoking could be a risk factor for follicular NHL among women but for HD no clear association has been documented^(6,7). Although, the role of cigarette smoking on the risk of HD remains controversial, Glaser *et al.*, (2002) has been pointed that apparent effects of current smoking on risk of MCHL and Epstein-Barr virus (EBV)-Positive HL, but household environmental tobacco smoke has risk on all HL in young adult females⁽⁸⁾. In Iraq, among the common malignancies HD comes in the tenth rank with, male mixed cellularity pattern predominant for the years 1986-1997⁽⁹⁾. While in Gulf countries and south east governorate of Yemen, HD comes in the fourth common cancer^(10, 11,12).

MATERIAL AND METHODS:

Across sectional study was conducted in the following study groups in period between the Jun 2003, and November, 2004. Eighty newly diagnosed HL patients (32 females and 48 males) who were either attending the Institute of Radiology and Nuclear Medicine, AL-Mansoor and Baghdad Teaching Hospitals in Baghdad City. All patients were in their new onset of the disease (not on chemo or radiotherapy) at which the histopathological samples were taken and diagnosed as HL according to the National Cancer Institute Working Formula. All patients were subjected to personal interview using especially designed questionnaire format. Control groups were age, sex and ethnic matched with patients group, they were consisted of two groups while patient control include 50 patients who were newly diagnosed to be affected by NHL. Healthy control include 50 healthy individuals whom were not complaining of any malignant problem. The statistical methods is used by Excel 2003.

RESULTS:

The results presented in this study were carried out for 80 patients with untreated HL, compared with 50 patients control NHL and 50 healthy individuals considered as healthy control. In this study the age of HL patients ranged between 10-73 years with a mean age of (29.31 ± 1.73) years as shown in table (1). Furthermore, there was slight males predominance among HL patients 48 (60%) than females 32(40%) as shown in figure (1). The age distribution of HL patients according to below and above 45 years was shown in figure (2). The age incidence below (45) years old forming 67 (84%), versus13 (16%) incidence above 45 years.

The locations of lymphadenopathy of our HL patients are observed in figure (3). The cervical lymph node was greater distributed 70% than 20, 6 and

4% for axilla, inguinal and liver respectively. The major clinical findings of our HL patients are delineated in figure (4). The main clinical presentation with HD was A symptom in 27% of HL patients versus 73% in B symptom.

Concerning distribution of stages and histological types of HL patients the highest patients number were recorded in MC (61%) and stage II (38%) while the lowest numbers of patients were recorded in LD (5%) and stage IV (3.75%) as shown in figure (5) and (6). Concerning smocking habits, there was no significant association between cigarette smocking and risk of HD (p>0.05), from 80 HL patients only 18(22.5%) were smoker all of them were males versus 10 men (20.0%) in healthy control group as shown in figure (7).

Table 1: Age distribution of the studied groups

Study Groups	Age in years					
	Range	Mean	Medium	SD	SE	Total No.
HL patients	10-73	29.31	25	15.52	1.73	80
NHL control	10-75	31.20	29.95	17.94	2.54	50
Healthy control	11-72	25.2	21	13.65	1.93	50

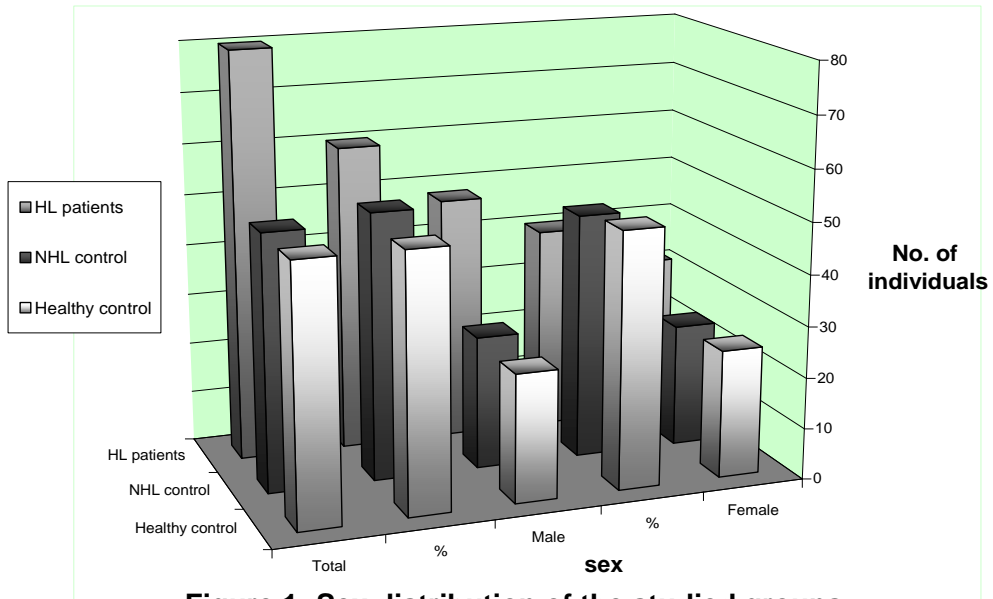


Figure 1: Sex distribution of the studied groups

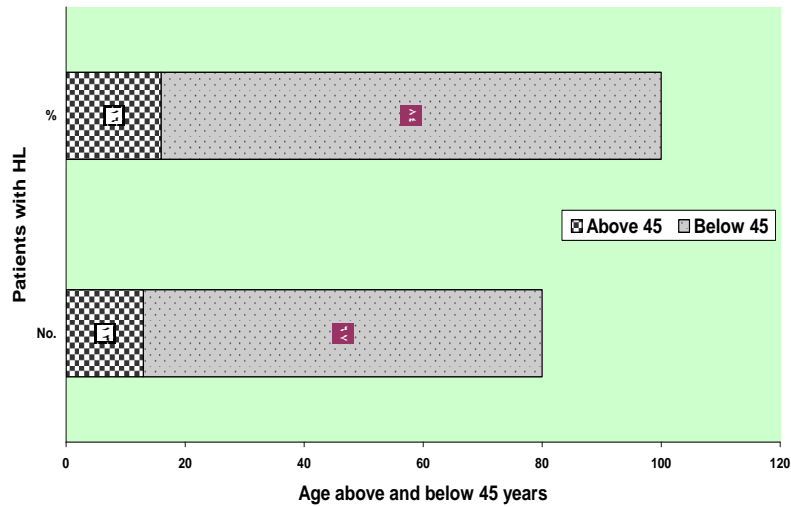


Figure 2: Frequency distribution of HL patients according to above and below 45 years

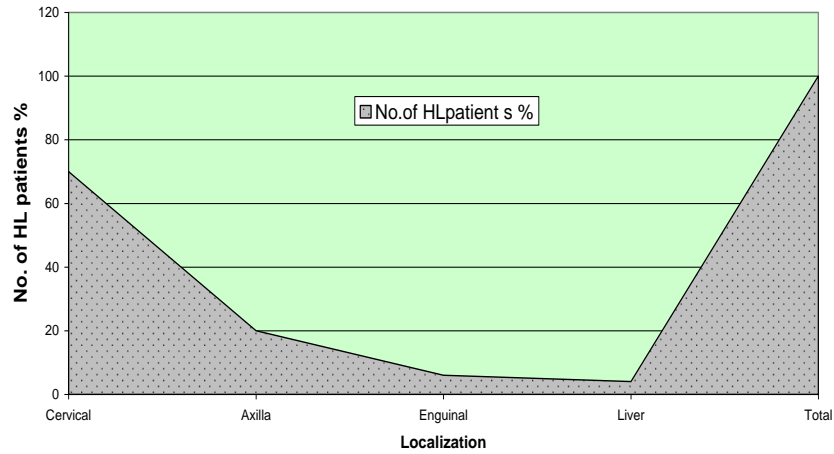


Figure 3: Localization of lymphadenopathy in the HL patients

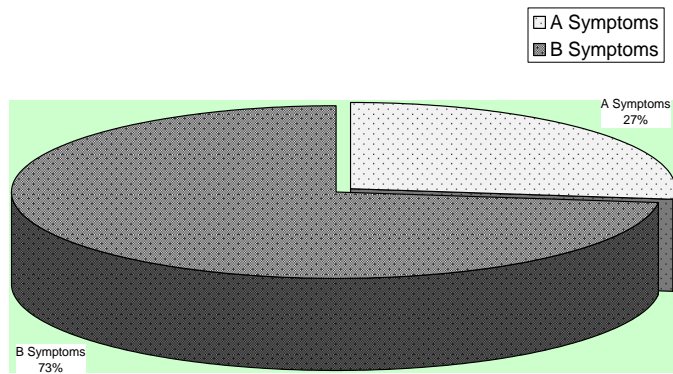


Figure 4: Frequency distribution of HL patients according to clinical symptoms

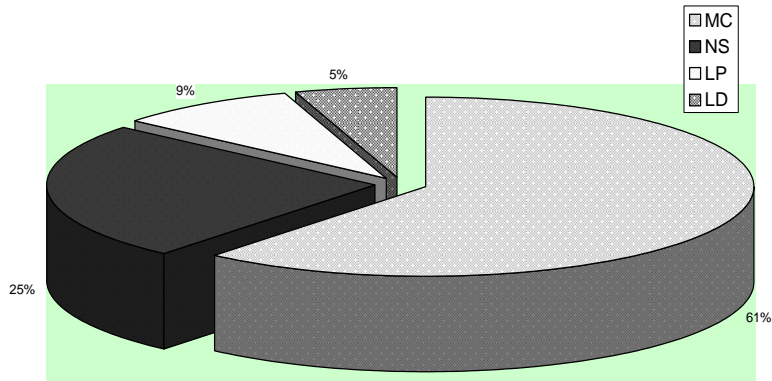


Figure 5 : The percent of histological types distribution of HL patients

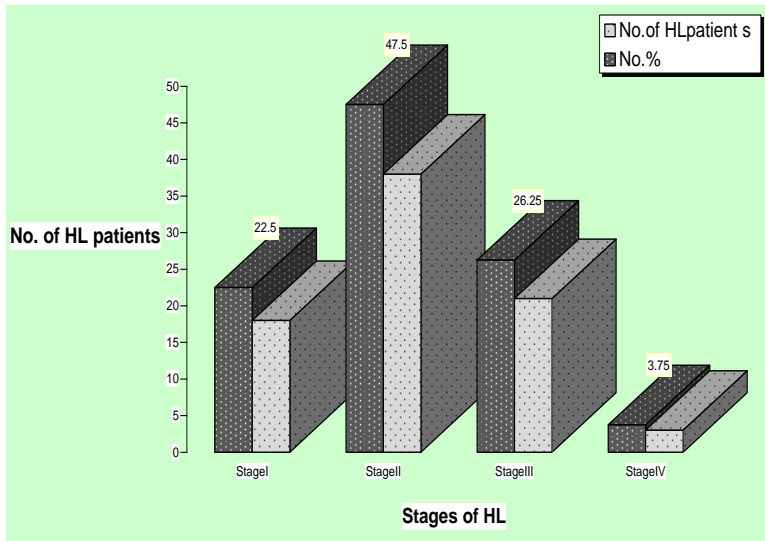


Figure 6: Stages distribution of HL patients

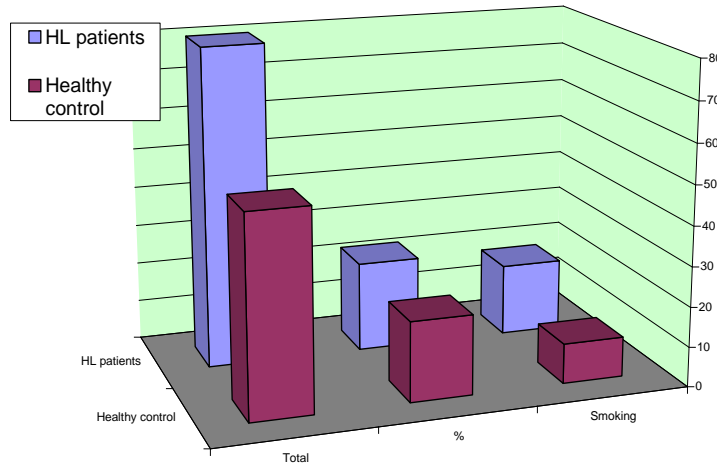


Figure 7: Smocking habits among HD patients and healthy control

DISCUSSION:

Hodgkin’s disease is relatively rare lymphoma that affects younger as well as older persons ⁽¹³⁾. Incidence variation by age, geographic location, social class, and an etiologic role for infections agent, possibly EBV, while aggregation in families and persons with specific HLA types indicates genetic susceptibility ⁽¹⁴⁾.

Hodgkin’s disease typically has bimodal age distribution, with an initial incidence peak among young adult ages and a second peak among older adult age ⁽¹⁵⁾. Regarding the sex, our result confirm the male predominance 48 (60%) than females 32 (40%), similar result was reported by Andriko *et al.*, (1997) ⁽¹⁶⁾.

This prominence in certain sex led some investigators to hypothesize a sex- linked genetic or hormonally related increase in susceptibility to the HD in certain individuals ⁽¹⁷⁾.

In our study, analyzed HL incidence according to age group below or above 45 years revealed incidence has decreased substantially at older ages 13 (16%) whereas an increased have been reported among young adult 67 (84%); Glaser *et al.*, (2002), was reported a similar finding they also suggested a 7-fold increased risk of HD in individuals under 45

years of age (8). The increased risk of HD in such age group probably associated with higher childhood socioeconomic status and other markers of delayed infection with common childhood pathogens, especially the EBV as well as the exposure to certain pesticides or organochlorin has been shown to be a risk factor to HD ⁽¹⁸⁾.

Regarding to location of lymphadenopathy, symptoms and stage of the disease, our finding relieved that the most common infected site was in the cervical lymph node (70%) accompanied by (70%) B symptoms and (38%) stage II of the disease, these finding in agreement with other investigator (5 and 2).

The epidemiology of HD shows wide geographic variation in histological sub types of the disease (8). In this work, MC was more predominant (61%) than other HD sub types (25, 5 and 2%) in NS, LP and LD respectively. Contrary to our finding, in USA and South Africa, NS sub types have increased over time ^(19 . 20). However, similar to our finding, in Asia especially in Arab Gulf and Kuwait, MC is often the predominant subtype ⁽²¹⁾. These ethnic different partly reflect deviations in environmental and heredity effect to HD (8).

The role of cigarette smoking on the risk of HD remains controversial. Our results were consistent with those of several studies indicating no significant heterogeneity was found between cigarette smoking and risk of HD ($p>0.05$). Similar results were obtained by Chatenoud *et al.*, (1998) and Gallus *et al.*, (2004) who found that there is no correlation between smoking, (for either the number of cigarettes smoked or the duration of consumption) and risk of HD^(22, 23).

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