

A Clinicopathological Study on Cases of Hodgkin's Diseases in Iraqi Children Attending AL-Kadhimiya Teaching Hospital

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Summary:

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Background: Hodgkin's Diseases is a group of cancers characterized by Reed- Sternberg cells, aneuoploid cells that usually express CD15 and CD30. Several epidemiological and serological studies support the role of Epstein –Barr virus in the pathogenesis of Hodgkin's Diseases

Patients and Method: A retrospective study was done where by twenty cases were collected from the Pediatric Oncology Clinic in AL-Kadhyimia Teaching Hospital over a period of five years from the first of January 2002 – end of December 2006. Information was taken from the patient's records in the Pediatric Oncology Clinic including age at presentation, sex, physical finding, histopathological subtypes, staging , treatment applied , outcome and follow up .

Results: Among the studied group 14 cases (70%) were males and 6 cases (30%) were females , male : female ratio equal to 2.3:1, rang of age was between 5- 16 years with a peak age at presentation was between 11- 15 years. The initial presentation was an enlarged cervical lymph node in 18 cases (90%), histopathologically , most of the patients had mixed cellularity subtype , 9 cases (45%), stage II and stage III comprise the majority of cases 8 cases for each (40%), B symptoms were reported in 13 cases (65%) . Chemotherapy was the mainstay of treatment with good response. The overall survival was (90%), 18 cases over a median period of follow up of 2-5 years. One case relapses two months after the end of treatment, no death.

Conclusion: Although mixed cellularity was encountered in most of our patients but the response to chemotherapy is good.

Key words: Hodgkin's Diseases, Children

Introduction:

Hodgkin's Diseases is a group of cancers characterized by Reed- Sternberg cells, aneuoploid cells that usually express CD15 and CD30, found in an appropriate reactive background(1) Several epidemiological and serological studies support the role of Epstein –Barr virus in the pathogenesis of Hodgkin's Diseases(2) A striking male : female ratio predominance is found among children(3). According to Rye histopathological classification four subtypes are found including lymphocyte predominant, mixed cellularity , nodular sclerosis and lymphocyte depletion (4) .It is widely accepted that Hodgkin's Diseases started as a single site within the lymphatic system with the neck being the most common involved site(1). Treatment in children evolved from extended- field radiation therapy to the use of multi- agent chemotherapy (5).

.Aim of the study:To have an idea about the mode of presentation, pathological subtypes , treatment applied and outcome in the Pediatric Oncology unit in AL-Kadhimiya Teaching Hospital.

Patients and Method:

A retrospective study was done where by twenty cases were collected from the Pediatric Oncology Clinic in AL-Kadhyimia Teaching Hospital over a period of five years from the first of January 2002 – end of December 2006. information was taken from the patient's record in the Pediatric Oncology Clinic including age at presentation, sex , physical finding, histopathological subtypes, staging , treatment applied , outcome and follow up , work up done including history looking for B symptoms as fever, night sweating and weight loss, investigation recorded including complete blood picture, liver function test , renal function test, chest X-ray , ultrasound and bone marrow examination, the diagnosis was established by lymph node excisional biopsy or fine needle aspirate, staging was done according to the Ann Arbor staging system(6). Chemotherapy was the mainstay of treatment, ABVD protocol (Adriamycin :25mg/m² I.V. infusion over 4hs ,Bleomycin :10 mg/m² I.V. infusion over 1 h ,Vinblastin :6 mg/m² I.V. bolus ,Dacarbacin : 375 mg/m² I.V. infusion over 1 h) was used in 10 cases one of them was referred after he was given ChIVPP protocol with no response , the other 9 cases were treated with ABVP protocol (Adriamycin :25mg/m² I.V. infusion over 4hs ,Bleomycin :10 mg/m² I.V. infusion over 1 h

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,Vinblastin :6 mg/m² I.V. bolus, Prednisolon 40 mg/m² orally daily for 7 days(repeat every 28 days for 6-8 courses) for both protocols. Favorable response is considered when there is (50%) reduction or greater in a measurable lymph node (7).

Results:

Among the studied group 14 cases (70%) were males and 6 cases (30%) were females , male : female ratio equal to 2.3:1, rang of age was between 5- 16 years with a median of 12 years . Peak age at presentation was between 11- 15 years as it is shown in (table – 1). The initial presentation was an enlarged cervical lymph node in 18 cases (90%), other clinical presentation is shown in(table –2).Histopathological finding is shown in(table – 3). , most of the patients have mixed cellularity subtype, 9 cases (45%). Staging is shown in(table – 4).stage II and stage III comprise the majority of cases 8 cases for each (40%),B symptoms were reported in 13 cases (65%) , 6 cases (30%) with stage II and 7 cases (35%) with stage III as it is shown in(table – 5).Chemotherapy was the mainstay of treatment, ABVD was used in 10 cases one of them was referred after he was given ChIVPP protocol with no response, the other 9 cases were treated with ABVP protocol, the overall survival was (90%) with 18 cases showed good response with complete remission and were free of the diseases after a median period of follow up of 2-5 years, one case (5%) refuse treatment. One case (5%) relapse two months after the end of treatment, radiation therapy was given to one patient who was stage III with mediastinal mass. No death reported.

Table- 1- Age at presentation and sex distribution

Age at presentation / years	Male		Female	
	No.	%	No.	%
<5	/	/	/	/
5-10	4	20	1	5
11-15	8	40	4	20
>15	2	10	1	5

Table-2- The initial presentation

Initial presentation	No.	%
Cervical lymph node enlargement	18	90
Supraclavicular lymph node enlargement	1	5
Axillary lymph node enlargement	4	20
Inguinal lymph node enlargement	3	15
Pallor	2	10
Hepatomegaly	8	40
Splenomegaly	8	40
Medistinal mass	7	35
Pulmonary involvement	2	10
Joint involvement	1	5
Bone marrow involvement	2	10

Note: Some patients had more than one initial presentation

Table-3- Histopathological sub types

histopathological sub types	No.	%
Mixed cellularity	9	45
Lymphocyte predominant	7	35

Nodular sclerosis	4	20
Lymphocyte depletion	/	/

Table- 4-Staging

Stage	No.	%
I	3	15
II	8	40
III	8	40
IV	1	5

Table -5- B symptoms

No. of patients with B symptoms	%
/	/
6	30
7	35
/	/

Table-6- Protocol applied

Protocol applied	No.	%
ABVD	10	50
ABVP	9	45

Note: One patient refuse treatment

Table-7- Response to treatment according to the stage

Stage	No. of patients in complete remission after a median follow up of 2-5 years	No. of patients relapse	No. of patients lost to follow up	No. of death
I	3	/	/	/
II	8	/	/	/
III	7	1	1	/
IV	/	/	1	/
Total	18	1	2	0
%	90	5	10	0

Discussion:

In this study, the age of the patients range between (5-16) years with a peak age at presentation of (11- 15) years which is in agreement of that reported by the Iraqi cancer registry, 1995 -1997(8) but slightly higher than that reported by AL-Attar study, 1990 (9) and Muhsan study ,1996(10) as well as studies done in the surrounding areas as Jordan, 1984(11) and Iran, 2002(12) but similar to the American study,1994 (13) and the French study ,2003(14). Male were involved more than female which is in agreement with that reported by the Iraqi cancer registry, 1995-1997(8) but differs from that reported by other studies(9,10,14,15).Cervical lymph node involvement is reported in (90 %) of cases, which is comparable with other studies done in Iraq ,it was reported in (96%) in Muhsan study(10) but (72.5%) in AL-Attar study(9).The most common histopathological subtype was mixed cellularity which constituted 45% indicating that the disease is more severe and more aggressive, mixed

cellularity was reported in 86.6% in Muhsan study(10) and 88.9% in AL-Attar study(9), It was 66.7% in South Iran(12), 50% in South Taiwan(16), 25% in the United Kingdom(15) and 17% in the USA(13). This pattern is similar to that of other developing countries while in the UK and USA, the most common histopathological subtype is nodular sclerosis, (49% and 67%) respectively(15,13).

Most of the patients were stage II and III(80%) compared with other studies stage III and IV were higher(9,10,11,12,13) while in the French study the majority (89%) were stage I and I(14), this may be explained by awareness of the parents when they notice abnormal and unusual lymph node enlargement and early referral by doctors to the oncology centers. Seventy % had B symptoms which is nearly equal to Muhsan study (80%)(10) but higher than AL-Attar(55.6%)(9), Iranian (57%)(17) and American (34%)(13) studies. Chemotherapy was the mainstay of treatment with complete remission and disease free survival reported in (90%) of cases after a median follow up of 2-5 years which is higher than that reported by AL-Attar study (82.5%)(9) and Muhsan study (53.3%)(10) this can be explained by the use of ABVD, ABVP protocols both of them were found to be very effective chemotherapy combination in addition most of the patients were stage II, III while in the previous Iraqi studies most of the patients were stage III and IV in addition ABVD protocol was not used at that time and there was shortage of chemotherapy.

Conclusions:

Although mixed cellularity was encountered in most of our patients but the response to chemotherapy is good.

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