
Hodgkin's Disease: Results of a Single Center in Central Anatolia

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ABSTRACT

Hodgkin's Disease (HD) accounts for about 1% of newly diagnosed malignant diseases. In this study 119 HD cases followed in Erciyes University Hospital were evaluated. 67.2% of the patients was male, 32.8% female. The patients' age ranged from 15 to 72 years with a median of 41.5 years. Of the patients 10.1% was stage I, 29.4% stage II, 39.5% stage III, and 21.0% stage IV. According to Rye classification frequency of histologic subtypes was as follows; 21.0% lymphocyte predominant, 25.2% nodular sclerosis, 43.7% mixed cellularity, and 10.1% lymphocyte depletion. Combination chemotherapy consisting cyclophosphamide, vincristine, procarbazine and prednisolone (COPP) was used as first line treatment in 59.7% of patients. Complete remission was achieved in 84.9% of patients and partial remission in 5.0% of patients; response could not be obtained in remaining 10.1% of patients. Disease progression or recurrence was observed in 30.2% of patients. Five year survival rate was found as 70.8% of all patients, 90.1% for stage III, 55.3% for stage III-IV patients (p= 0.03).

Key Words: Hodgkin's Disease, Clinical features, Survival, Adult.

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INTRODUCTION

Hodgkin's Disease (HD) accounts for 40% of malignant lymphoma and about 1% of newly diagnosed malignant disease. It's a highly chemosensitive disease. Cure can be obtained even in advanced stages of HD. It's also radiosensitive malignant disease. Radi-

otherapy (RT) is administered for palliative and also curative purpose in early stage of disease. Treatment choice depends on stage and localization of disease. Complete remission rate is above 80% after primary treatment. Nodal involvement is usual in HD, extranodal involvement is less in HD compared to nonHodgkin lymphoma (NHL)^[1-3].

PATIENTS and METHODS

In this study, 119 HD cases followed in Erciyes University hospital between June 1989-August 1999 were evaluated retrospectively. Demographic characteristics, primary treatment, results of primary treatment, disease free and overall survival were observed. Diagnosis of HD depends on classical histopathologic characteristics. Histologic subtypes were recorded according to Rye classification. Before staging posteroanterior chest roentgenogram, thorax computerized topography (CT), abdominal ultrasonography (USG) and/or CT, bone marrow biopsy were done. Complete blood count and serum chemistry were studied. Ann Arbor staging system was used. Chemotherapy regimens were COPP (Cyclophosphamide 650 mg/m² IV day 1+8, Vincristine 1.2 mg/m² IV day 1+8, Procarbazine 100 mg/m² PO day 1-14, Prednisone 40 mg/m² PO day 1-14), ABVD (Doxorubicin 25 mg/m² IV day 1+15, Bleomycin 10 mg/m² IV day 1+15, Vinblastine 6 mg/m² IV day 1+15, Dacarbazine 375 mg/m² IV day 1+15) and COPP/ABVD alternating regimen. Radiotherapy was administered as mantle field 3600 Gy at a rate of approximately 1000 cGy per week and 600 cGy boost dose. Disease

free and overall survival of patients were calculated by Kaplan Meier test.

RESULTS

One hundred nineteen patients were evaluated. 67.2% of the patients was male, 32.8% female. The patients' age ranged from 15 to 72 years with a median of 41.5 years. In general, 45 years in male and 32 years in female patients. Female patients were significantly younger than male patients ($p=0.004$). HD demonstrated bimodal distribution in female patients but not in male patients (Figure 1). Age and sex distribution of patients are shown in Table 1.

Patients were mostly in advanced stages 60.5% was stage 3 or 4, 39.5% stage 1-2. Distribution of patients according to stage was shown in Table 2. 40.5% of the patients had one or more B symptoms. The most frequency-involved sites in stage 4 patients were liver, bone marrow and lung.

Most frequently seen type was mixed cellular type as 43.7%, the least being lymphocyte depletion type being 10.1%. Distribution of patients according to Rye classification is shown in Table 3.

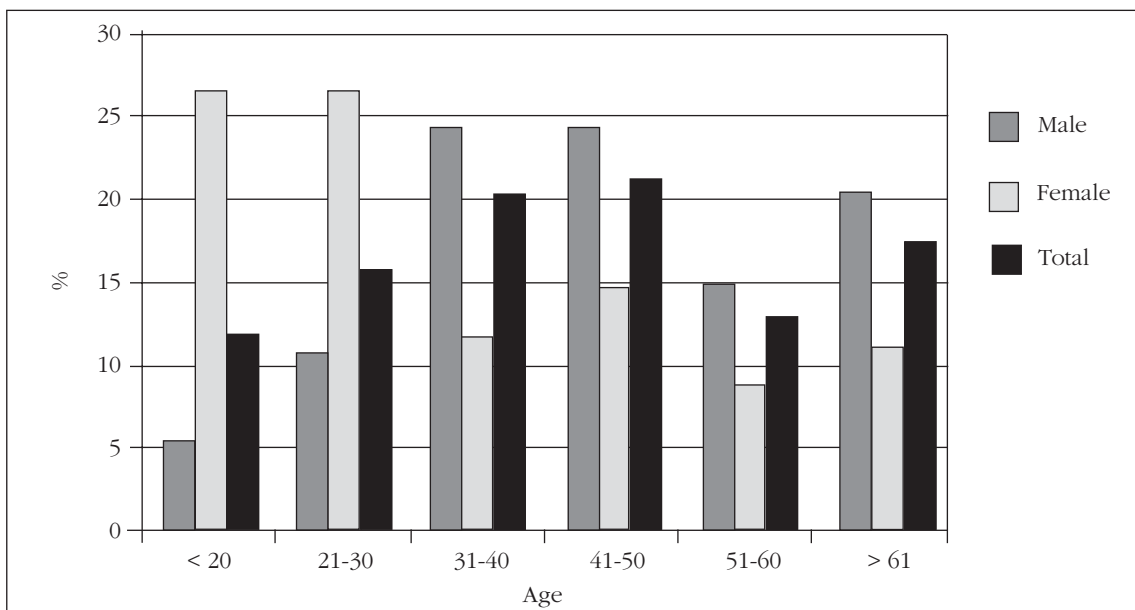


Figure 1. Age and sex distribution of patients.

Table 1. Demographic characteristics of patients

	n
Patients number	119
Age (median and range)*	
Female	32.0 (15-69)
Male	45.0 (16-72)
Total	41.5 (15-72)
Sex	
Female	39 (%32.8)
Male	80 (%67.2)

*p= 0.004

Table 2. Distribution of patients according to Ann Arbor classification system

	n	%
Stage 1	12	10.1
Stage 2	35	29.4
Stage 3	47	39.5
Stage 4	25	21.0

Table 3. Distribution of patients according to Rye classification

	n	%
Lymphocyte predominant	25	21.0
Nodular sclerosis	30	25.2
Mixed cellularity	52	43.7
Lymphocyte depletion	12	10.1

Primary treatment was COPP combination chemotherapy in 59.7% of patients. Complete remission was obtained in 84.9% of patients. Myelosuppression was the most frequent chemotherapy related complications. Twenty patients were treated by radiotherapy only in early stage patients. Primary treatment administered and results obtained are summarized in Table 4 and 5 respectively.

The shortest follow up period was 4 months, the longest 120 months. Median follow up period was 16.0 months. Disease progression or recurrence was observed in 36 (30.2%) patients. Five-year survival rate was 70.8% in all patients, 90.1% in stage 1-

Table 4. Primary treatment choice in Hodgkin's disease

	n	%
COPP	71	59.7
ABVD	10	8.4
COPP/ABVD	13	10.9
Radiotherapy (only)	20	16.8
Others	5	4.2

Table 5. Results of primary treatment

	n	%
Complete remission	101	84.9
Partial remission	6	5.0
No response	12	10.1

2 patients, 55.3% in stage 3-4 patients (p= 0.03) (Figure 1,2). Median disease free survival time was 44.5 ± 6.64 months (95% confidence interval 31.53 - 57.54), overall survival time was 90.9 ± 6.83 months (95% confidence interval 77.54-104.32).

DISCUSSION

HD comprises about 1% of newly diagnosed malignant disease. Cure can be obtained by RT and chemotherapy (CMT) in this disease. HD demonstrates a bimodal age incidence curve, first peak occurs in young adulthood and second peak after age 50. In this study median age was calculated as 41.5 years (15-72) for all patients. Female patients were significantly younger than male patients. Bimodal distribution was seen in female but not in male patients^[1-3].

In Western countries nodular sclerosis subtype is the most frequent one comprising nearly 2/3 of cases, reported as about 60-70%^[4,5]. In our country mixed cellularity subtype is more frequently reported. In our study mixed cellularity subtype is most frequently seen as 43.7%. Nodular sclerosis, lymphocyte predominant and depletion subtypes followed this. Lymphocyte predominant and depletion subtypes were detected more than literature data^[2]. In Western

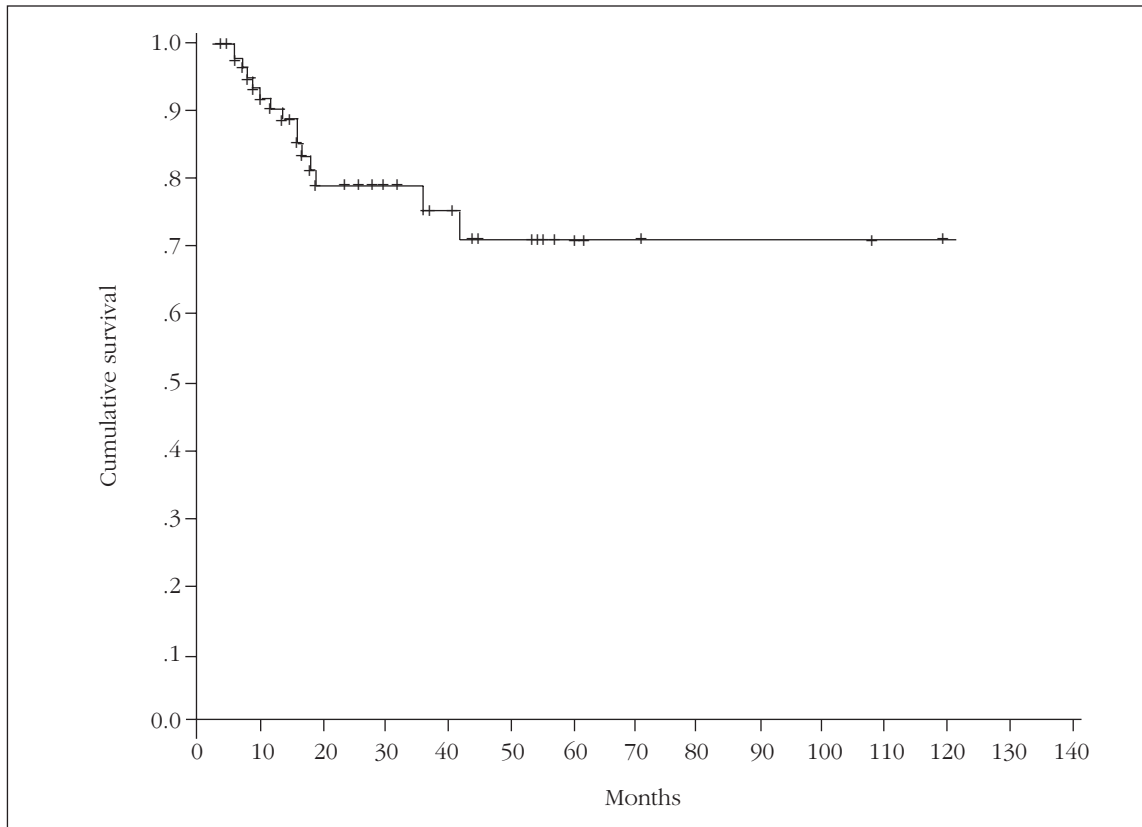


Figure 2. Curve of overall survival for all patients.

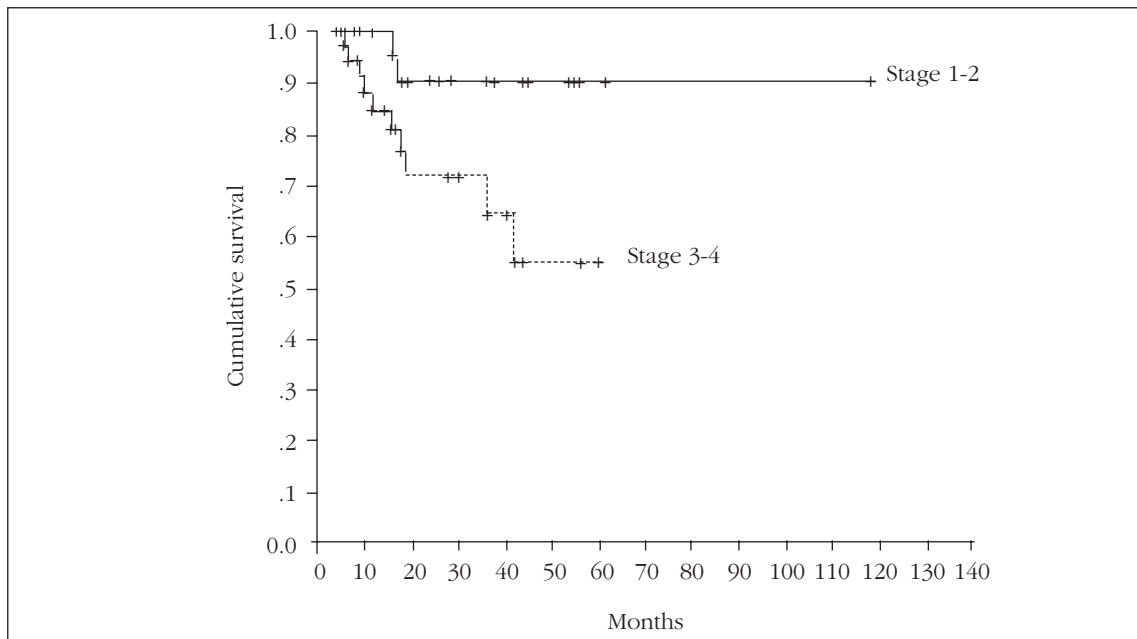


Figure 3. Curve of overall survival for patients according to stage.

literature both subtypes are reported in rate of 2.7% but in our study especially lymphocyte predominant type was seen in rate of 21.0%^[4,5].

In literature more than half of the cases were in early stage (stage 1-2). However our patients were mostly in advanced stages. Stage 1-2 patients were 39.5%, stage 3-4 were 60.5%.

In management of HD, RT and CMT are effective. Nitrogen mustard, vincristine, procarbazine, prednisone (MOPP) and adriamycin, bleomycin, vinblastine, dacarbazine (ABVD) CMT protocols are used in management of HD classically^[6-9]. Although variations of MOPP regimen were used, no superiority to MOPP was found. In Turkey cyclophosphamide is frequently used instead of nitrogen mustard forming COPP protocol. COPP was used most frequently in our patients and complete remission was obtained in 84.9% of them. In early stage disease CMT can be used in combination with RT. Results of combination therapy seem superior to only RT^[10-17].

Relapse and/or progression of disease was seen in 30.2% of our patients and 5 year survival for all patients was calculated as 70.8%. For these group of patients reported 5 year survival is about 60-70%. Stage 1-2 patients have prolonged survival compared to stage 3-4. Five year survival is 90.1% in stage 1-2, 55.3% in stage 3-4. These data are compatible with literature data given as advanced stage HD results.

REFERENCES

- Rosen PJ, Lavey RS, Haskell CM. Hodgkin's Disease In: Haskell CM (ed). Cancer treatment. 4th ed. Philadelphia. WB Saunder Company, 1995:951-79.
- DeVita VT, Mauch PM, Harris NL. Hodgkin's Disease In: DeVita VT, Hellman S, Rosenberg SA (eds). Cancer Principles and Practice of Oncology. 5th ed. Philadelphia, Lippincott-Raven, 1997:2242-83.
- Stein RS. Hodgkin Disease. In: Lee RG, Foerster J, Lukens J et al. (eds). Wintrobe's Clinical Hematology. 10th ed. Egypt. Mass Pub. 1999:2538-71.
- Medeiros LJ, Greiner TC. Hodgkin's Disease. Cancer 1995;75(Suppl 1):357-69.
- Bernhards J, Fischer R, Hubner K, Schwarze EW, Georgii A. Histopatological classification of Hodgkin's lymphoma. Results from the reference pathology of the German Hodgkin's trial. Ann Oncol 1992;3(Suppl 4):31-3.
- Longo DL. The use of chemotherapy in the treatment of Hodgkin's disease. Semin Oncol 1990;17:716-35.
- De Vita VT Jr, Simon RM, Hubbord SM, Young RC, Berard CW, Maxley JH, Frei ED 3d, Carbone PP, Canellos GP. Curability of advanced Hodgkin's disease with chemotherapy. Long-term follow-up of MOPP treated patients at the National Cancer Institute. Ann Intern Med 1980;92:587-95.
- Longo DL, Young RC, Wesley M, Hubbord SM, Duffley PL, Jaffe ES, De Vita VT Jr. Twenty years of MOPP therapy for Hodgkin's disease. J Clin Oncol 1986;4:1295-303.
- Santora A, Bonfante V, Bonadonna G. Salvage chemotherapy with ABVD in MOPP-resistant in Hodgkin's disease. Ann Intern Med 1982;96:139-43.
- Nissen N, Nordentoft A. Radiotherapy versus combined modality treatment of stage I and II Hodgkin's disease. Cancer Treat Rep 1982;66:799-803.
- Longo DL, Glatstein E, Duffey PL, Young RC, Hubbord SM, Urba WJ, Wesley MN, Routbitschek A, Jaffe ES, Wiernik PH. Radiotherapy versus combination chemotherapy in the treatment of early stage Hodgkin's disease: Seven year results of a prospective randomized trial. J Clin Oncol 1991;9:906-17.
- Sieber M, Ruffer U, Jostin A, Diehl V. Treatment of Hodgkin's disease: Current strategies of the German Hodgkin's Lymphoma Study Group. Ann Oncol 1999;10(Suppl 6):23-9.
- Wolf J, Tesch H, Parsa-Parsi R, Engert A, Diehl V. Current clinical trials for the treatment of adult Hodgkin's disease: Common strategies and perspectives. Ann Oncol 1989;9(Suppl 5):79-2.
- Wolf J, Engert A, Diehl V. Issues in the treatment of Hodgkin's disease. Curr Opin Oncol 1989;10:396-402.
- Advani RH, Horning SJ. Treatment of early-stage Hodgkin's disease. Semin Hematol 1999;36:270-81.
- Cosset JM, Ferme C, Noordijk EM, Dubray BM, Thirion P, Henry-Amar M. Combined modality treatment for poor prognosis stages I and II Hodgkin's disease. Semin Radiat Oncol 1996;6:185-95.
- Sieber M, Engert A, Diehl V. Treatment of Hodgkin's disease: Results and current concepts of the German Hodgkin's Lymphoma Study Group. Ann Oncol 2000;11(Suppl 1):81-5.

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