Elderly Hodgkin Lymphoma – Multicenter Retrospective Data Analysis from the Czech Hodgkin Lymphoma Registry

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on behalf of Czech Hodgkin Study Group

Background

The proportion of elderly Hodgkin lymphoma (HL) patients (age ≥ 60 years) ranges between 15% and 35%. Outcome of this group of patients (pts) is significantly inferior compared with younger pts. Management of therapy is still unclear, standard treatment is not yet defined, especially with concomitant cardiac and/or pulmonary diseases. Purpose of this study was to analyze treatment and outcome of elderly HL pts prospectively registered in Hodgkin Lymphoma Project in the Czech Republic.

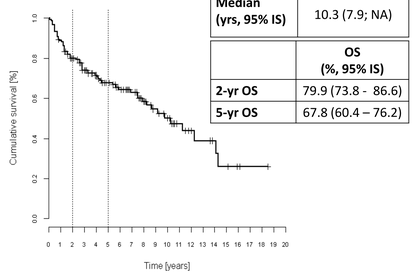
Patients and methods

The proportion of elderly patients in the Czech HL Registry was 11%. We analyzed 151 pts ≥ 60 years with classical HL (pts with nodular lymphocyte predominant HL were excluded) diagnosed between 1995 and 2016.

Tab 1: Characteristics of patients (pts ≥ 60 years)

	N=151	%
Number of pts 60-70/ > 70 years	151 (109/42)	72.2/27.8
Gender: M/F	82/69	54.3/45.7
Median of age (range)	67 (60-84)	
Histology subtype		
Mixed cellularity	75	49.7
Nodular sclerosis	45	29.8
Lymphocyte predominant	9	6.0
Lymphocyte depleted	1	0.6
Not specified	21	13.9
Clinical stage Early/Intermediate/Advanced/Unknown	22/27/101/1	14.6/17.9/66.9/ 0.6
B symptoms present	94	62.2
Performance status (ECOG) ≥ 2	36	23.8
60-69/≥70 years	24/12	15.9/7.9
International prognostic score IPS (0-1/2-3/4-7/unknown)	10/45/43/3	9.9/44.5/42.6/3.0
GHSG risk factors		
Extranodal involvement	60	39.7
Massive mediastinal tumor	9	6.0
≥3 lymph nodes regions	99	65.6
Cumulative Illness Rating Scale (CIRS) > 3 (cumulative)/ ≤ 3/ unkonown	91/58/2	60.3/38.4/1.3
Loss of activities of daily living (ADL) < 6 / = 6/unknown	30/112/9	19.9/74.2/5.9
Anthracycline based chemotherapy Yes	118	80.3
Follow –up (median, range), years	4.2 (0.1-18.5)	

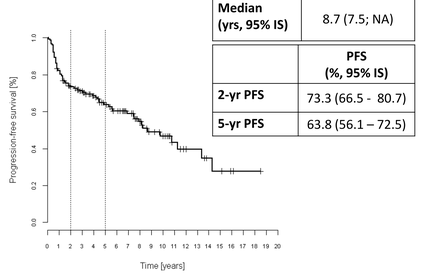
Overall survival (OS)



	OS
Median (yrs, 95% IS)	10.3 (7.9; NA)

	OS (%, 95% IS)
2-yr OS	79.9 (73.8 - 86.6)
5-yr OS	67.8 (60.4 – 76.2)

Progression free survival (PFS)



	PFS
Median (yrs, 95% IS)	8.7 (7.5; NA)

	PFS (%, 95% IS)
2-yr PFS	73.3 (66.5 - 80.7)
5-yr PFS	63.8 (56.1 – 72.5)

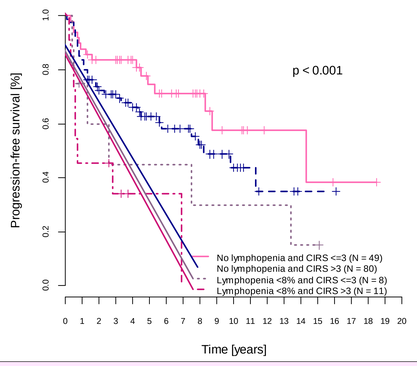
Tab 2 Univariate analysis for OS and PFS

Prognostic factors	Overall survival (OS)			Progression-free survival (PFS)		
	Hazard ratio	95% CI	p-value	Hazard ratio	95% CI	p-value
Albumin level < 4.0 g/dl	1.930	1.132-3.292	**0.016**	1.688	1.021-2.790	**0.041**
CIRS score > 3	1.821	1.036-3.199	**0.037**	1.599	0.944-2.708	0.081
Lymphopenia < 8%	2.329	1.269-4.274	**0.006**	2.518	1.408-4.501	**0.002**
Age ≥ 75 y	2.002	1.060-3.781	**0.033**	1.859	0.991-3.489	0.054
Failure of complete remission achievement	4.817	2.868-8.091	**<0.001**	4.699	2.864-7.709	**<0.001**
No anthracycline based chemotherapy	2.026	1.130-3.631	**0.018**	2.051	1.166-3.607	**0.013**

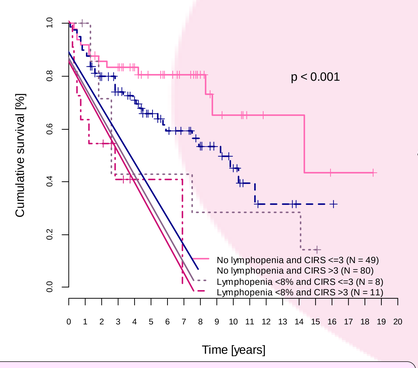
Tab 3 Multivariate analysis for OS and PFS

Multivariate analysis	Overall survival (OS)			Progression-free survival (PFS)		
Variable	Hazard ratio	95% CI	p-value	Hazard ratio	95% CI	p-value
Lymphopenia < 8%	2.977	1.575-5.627	**<0.001**	3.052	1.663-5.600	**<0.001**
CIRS > 3	2.009	1.127-3.580	**0.018**	1.741	1.017-2.982	**0.043**

PFS according to presence of lymphopenia < 8% and/or CIRS > 3



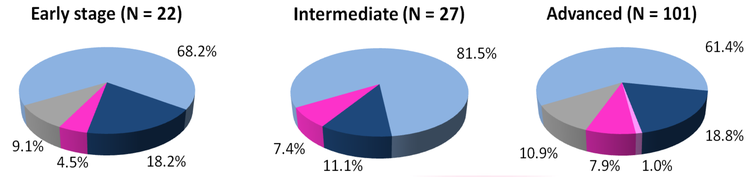
OS according to presence of lymphopenia < 8% and/or CIRS > 3



Results

Overall response rate after the first-line treatment was evaluated in 125 (82.8%) (65.7% CR), SD in 1 (0.7%) and primary disease progression in 12 (7.9%) of pts. Treatment response was not evaluable in 8.6% of pts. Relapses occurred in 10% and 1 pts underwent high dose CT and autologous stem cell transplantation in the 1st relapse (age 61y). At the time of last visit, 59.6% pts were alive and 40.4% (61 pts) of pts died: HL progression 17 pts, toxicity of treatment 15 pts, secondary malignancies 8 pts, other causes 12 pts. The cause of death in 9 pts remained unknown.

Response to 1st line therapy

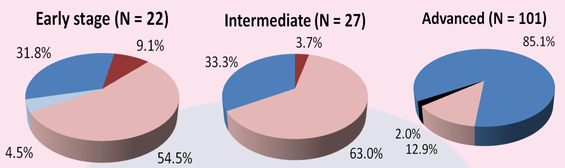


Tab 4 Response to 1st line therapy

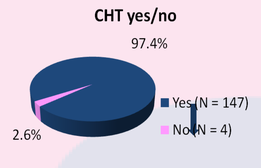
	Early (N = 22)	Intermediate (N = 27)	Advanced (N = 101)	Unknown stage (N = 1)
CR (N = 99)	15 (68.2%)	22 (81.5%)	62 (61.4%)	0 (0.0%)
PR (N = 26)	4 (18.2%)	3 (11.1%)	19 (18.8%)	0 (0.0%)
SD (N = 1)	0 (0.0%)	0 (0.0%)	1 (1.0%)	0 (0.0%)
PD (N = 12)	1 (4.5%)	2 (7.4%)	8 (7.9%)	1 (100.0%)
Unknown (N = 13)	2 (9.1%)	0 (0.0%)	11 (10.9%)	0 (0.0%)

Abbreviations: CR – complete remission, PR – partial remission, SD – stable disease, PD – progressive disease

The 1st line therapy by GHSG risk groups



Type of CT in the 1st line



Tab 5 The 1st line therapy

	Early (N = 22)	Intermediate (N = 27)	Advanced (N = 101)	Unknown stage (N = 1)
Not treated (N = 1)	1 (4.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
CT (N = 103)	7 (31.8%)	9 (33.3%)	86 (85.1%)	1 (100.0%)
RT (N = 3)	2 (9.1%)	1 (3.7%)	0 (0.0%)	0 (0.0%)
CT+RT (N = 42)	12 (54.5%)	17 (63.0%)	13 (12.9%)	0 (0.0%)
CT+other (N = 2)	0 (0.0%)	0 (0.0%)	2 (2.0%)	0 (0.0%)

Abbreviations: CT – chemotherapy, RT – radiotherapy, N - number

Tab 6 Type of CT

	%	N
BEACOPP	5.4	8
ABVD	49.7	73
ABVD+BEACOPP	2.0	3
ABVD+PVAG	0.7	1
COPP	15.7	23
CHOP+ABVD	0.7	1
Stanford V	2.0	3
COPP+ABVD	17.0	25
Other	6.1	9
Unknown	0.7	1
	100.0	**147**

Anthracycline based chemotherapy: 118 pts (80.3%)

Conclusions

- Long – term survival of our patients depended on the CIRS score and lymphopenia.
- Interestingly, 4 IPS factors (gender, hemoglobin leucocytes, GHSG advanced stage), ADL and performance status ECOG were not significant for survival in univariate analysis.
- Prospective clinical studies are still needed to determine an optimal effective regimen with low toxicity in elderly patients.

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