soho2023
ELEVENTH ANNUAL MEETING

Prognostic Value of Time of Relapse in Patients with Diffuse Large B-Cell Lymphoma

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INTRODUCTION

Diffuse large B-cell lymphoma (DLBCL) represents the most common subset of non-Hodgkin's lymphoma (NHL). The standard first-line treatment can cure over half of patients. Nevertheless, 30-40% of patients will experience refraction or relapse and have poor prognosis.

AIM

This study aimed to identify clinical and laboratory properties that can predict early relapse in NHL patients.

METHOD

A retrospective study included 178 patients with DLBCL. It was carried out at the hematology Unit, Oncology Center, Mansoura University, Egypt. All patients received CHOP ± rituximab. Treatment response was assessed according to revised IWG criteria. Relapsed disease is defined as the development of new lesions following complete remission; it can occur early (less than 12 months after CR) or late (more than 12 months after CR).

RESULTS

The study comprised 117 males (65.7%) and 61 females (34.3%); their mean age was 47.5 ± 11.6 years. The presence of bulky masses (as defined by the largest tumor diameter greater than or equals 10 cm) was the only significant predictor of early relapse in univariate analysis (*P*=.007). Using univariate analysis, significant predictors for overall survival (OS) included PS ≥ 2; B symptoms; HCV seropositive; extra-nodal sites > 1; elevated LDH; stage III/IV; high, intermediate-high IPI; and early relapse (*P*=.0001, .028, .005, .0001, .001, .0001, .0001, and .002, respectively). However, using multivariate analysis, only early relapse remained significant (*P*=.002).

Table 1: Cox regression hazard analysis for predictors of overall survival in studied patients

		Univariate			Multivariate		
		OR	95% CI	P	OR	95% CI	P
Age	≤ 60 >60	0.92	0.5 – 1.7	0.8			
Gender	Male Female	1.15	0.72-1.83	0.57			
PS	<2 ≥2	0.31	0.19-0.49	0.0001	1.07	0.37-3.1	0.91
BMI	≤ 25 >25	0.88	0.57-1.36	0.56			
HCV		0.51	0.31-0.81	0.005	0.8	0.28-2.29	0.67
WBC (x 10^3/ml)		1.1	0.98-1.1	0.18			
HB (gm/dl)	≥12 <12	1.2	0.73-1.74	0.59			
Platelet (x 10^3/ml)		1	0.99-1	0.058			
AST (IU/L)		1	0.97-1	0.95			
ALT (IU/L)		1	0.98-1	0.63			
Total bilirubin (mg/dl)		0.4	0.1-1.6	0.19			
Serum albumin (g/dl)	<3.5 ≥3.5	1.1	0.73-1.74	0.59			
LDH (U/L)	Normal Elevated	0.2	0.07-0.53	0.001	3.1	0.91-10.5	0.07
B symptoms		0.61	0.4- 0.95	0.028	0.83	0.47-1.44	0.5
Splenic involvement		0.7	0.4-1.2	0.19			
Bulky lesions		1.2	0.73-1.84	0.53			
Extra-nodal sites	≤ 1 > 1	0.43	0.28-0.67	0.0001	1	0.5-2.07	0.98
Ann Arbor stage	I-II III-IV	0.33	0.18-0.59	0.0001	0.93	0.32-2.7	0.89
IPI	Low Low-intermediate High intermediate High	0.24	0.15-0.38	0.0001	1	0.32-3.1	0.99
Relapse	Early Late	2.4	1.4-4.3	0.002	0.46	0.26-0.82	0.002

CONCLUSIONS

We conclude that the only significant indicator of an early relapse was bulky lesions upon presentation. Additionally, early relapse is a significant predictor of OS. Further prospective studies are therefore required to ascertain whether bulky lesions are a sign that the standard therapeutic plan needs to altered.

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ACKNOWLEDGEMENTS

This poster received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

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