



Clinical Profile, Prognostic Factors, and Outcomes of Hodgkin’s Lymphoma: A Retrospective Study

Sandhya Singuluri, Luxitaa Goenka, Biswajit Dubashi, Smita Kayal, Prasanth Ganesan
Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER)
Puducherry, India

Introduction

Hodgkin’s Lymphoma (HL) displays distinct characteristics among different ethnic groups; hence, the clinical profile, prognostic factors, and outcomes may differ in the Indian population
Though multiple scoring systems are available, an inexpensive, easily available scoring system or marker would be preferred in a resource-limited setting.

Objectives

- To determine the clinical profile, prognostic factors, and treatment outcomes of HL in a tertiary care hospital in India
- To verify the prognostic utility of neutrophil lymphocyte ratio (NLR) and IPS3 score

Materials & Methods

Adults ≥18 years of age with HL and who had received treatment at our hospital, between 2013-2019 were included
Baseline and outcome data was retrospectively collected from records and analyzed for survival using the Kaplan Meier method, log rank analysis and regression analysis.

Results

Of 192 patients, 145 were included for analysis (30 relapse, 7 default & 10 missing data)

	N (%) All patients	Advanced stage (IIB,III, IV) N = 99 (68%)	Early Stage (I, IIA) N = 46 (32%)
N	145	99	46
Age (median, range)	36 (26-49)	37 (27 - 51)	35 (24 – 48)
Males	90 (62)	62 (62.6)	29 (63)
Stage			
Stage I	17 (12)	-	17 (37)
Stage II	44 (30)	14 (14)	29 (63)
Stage III	52 (36)	52 (53)	-
Stage IV	31 (21)	33 (33)	-
B symptoms	68 (47)	64 (64.6)	4 (9)
Bulky disease	20 (14)	13 (113.1)	7 (15)
Histology			
Mixed cellularity	58 (40)	39 (39.4)	19 (41)
Nodular sclerosis	57 (39)	41 (41.4)	16 (35)
Others	30 (21)	19 (19.2)	11 (24)
Immunophenotype (RS cells)			
CD30+	131 (92)	93 (93.9)	38 (82.6)
CD15+	76 (53)	52 (52.5)	24 (52)
CD20+	15 (10)	10 (10)	5 (11)

After a median follow-up of 40 months, the median EFS and OS were not reached (estimated 3 years EFS: 70.6%, 5-year OS: 84.1%).

The factors affecting EFS and OS in Univariate analysis with hazard ratio and p value are depicted in table 1.

Poor performance status, Bulky disease, poor end of treatment response were significant for both EFS and OS and retained their significance in multivariate analysis.

Additionally, presence of B Symptoms, LDH (≥400) and the novel markers IPS3 (age, stage, Hb), NLR were significant for OS. (Fig 1)

Variable	N	OS (%) (5 yrs)	95% CI	Hazard Ratio	P
ECOG PS					
0,1	115	82	1.11 – 5.65	1	0.04
2,3	28	58		2.23	
B symptoms					
Yes	68	70	1.35 – 4.91	2.20	0.04
No	77	85		1	
Bulky disease					
>10cm	20	56	1.23 – 5.43	2.28	0.04
<10cm	124	81		1	
LDH					
>400	53	61	2.23 – 5.67	5.10	0.02
≤400	27	96		1	
NLR					
>3.5	66	70	2.13 – 4.86	2.15	0.04
≤3.5	69	84		1	
IPS3					
0-1	86	83	2.42 – 5.87	1	0.02
2-3	59	68		5.4	
End of Rx CR					
yes	101	84	1.03 – 6.65	1	0.03
No	27	68		2.62	

Variable	N	EFS (%) 5 yrs	95% CI	Hazard Ratio	P
ECOG PS					
0,1	115	67	1.2 – 4.38	1	0.008
2,3	28	36		2.32	
Bulky disease					
>10cm	20	48	1.04 – 4.29	2.11	0.03
<10cm	124	64		1	
IPS3 (adv)					
0-1	35	74	0.42 – 1.26	1	0.29
2-3	57	59		1.6	
End of Rx CR					
Yes	101	75	1.52- 5.75	1	0.001
No	27	47		2.96	

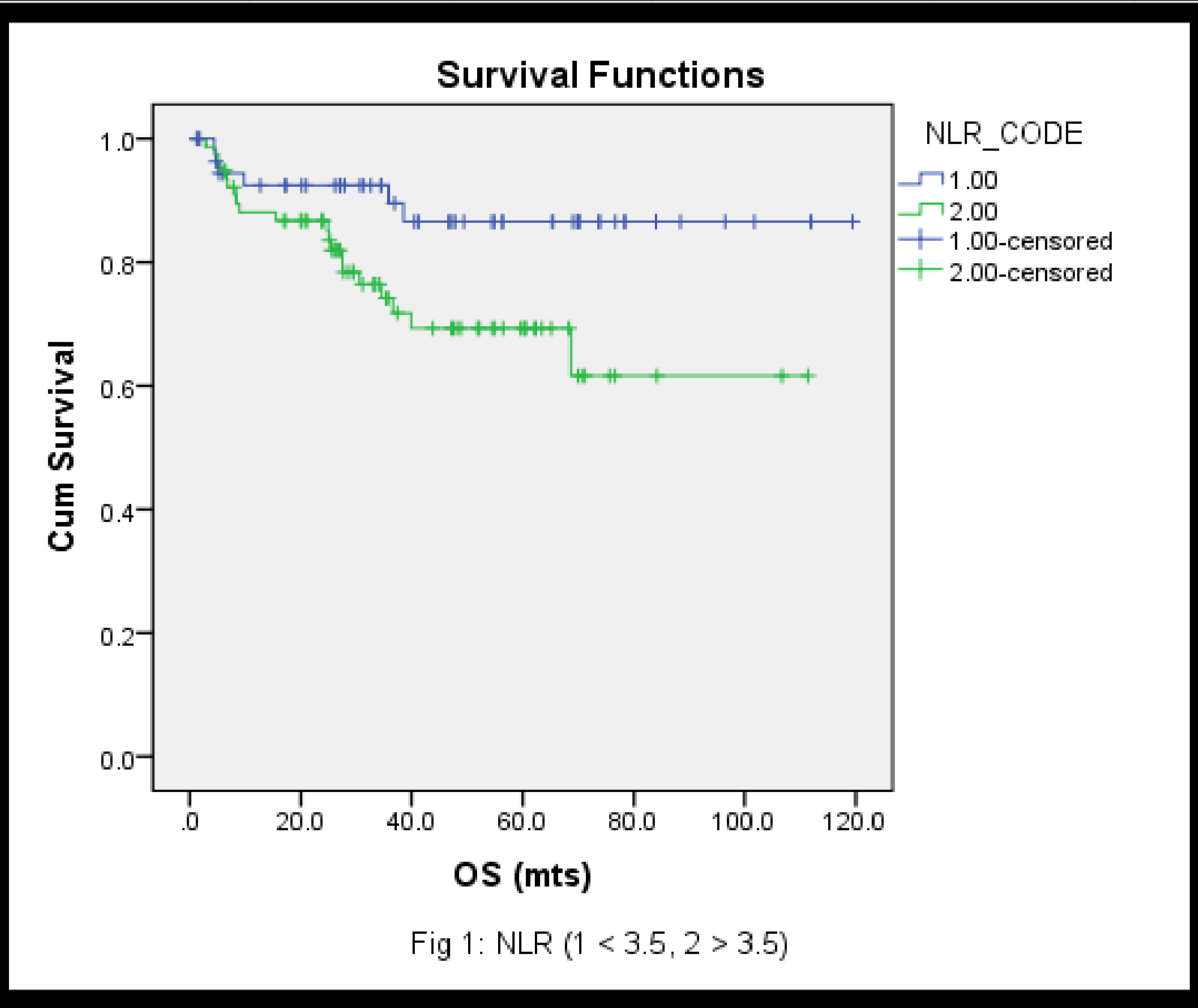


Fig 1: NLR (1 < 3.5, 2 > 3.5)

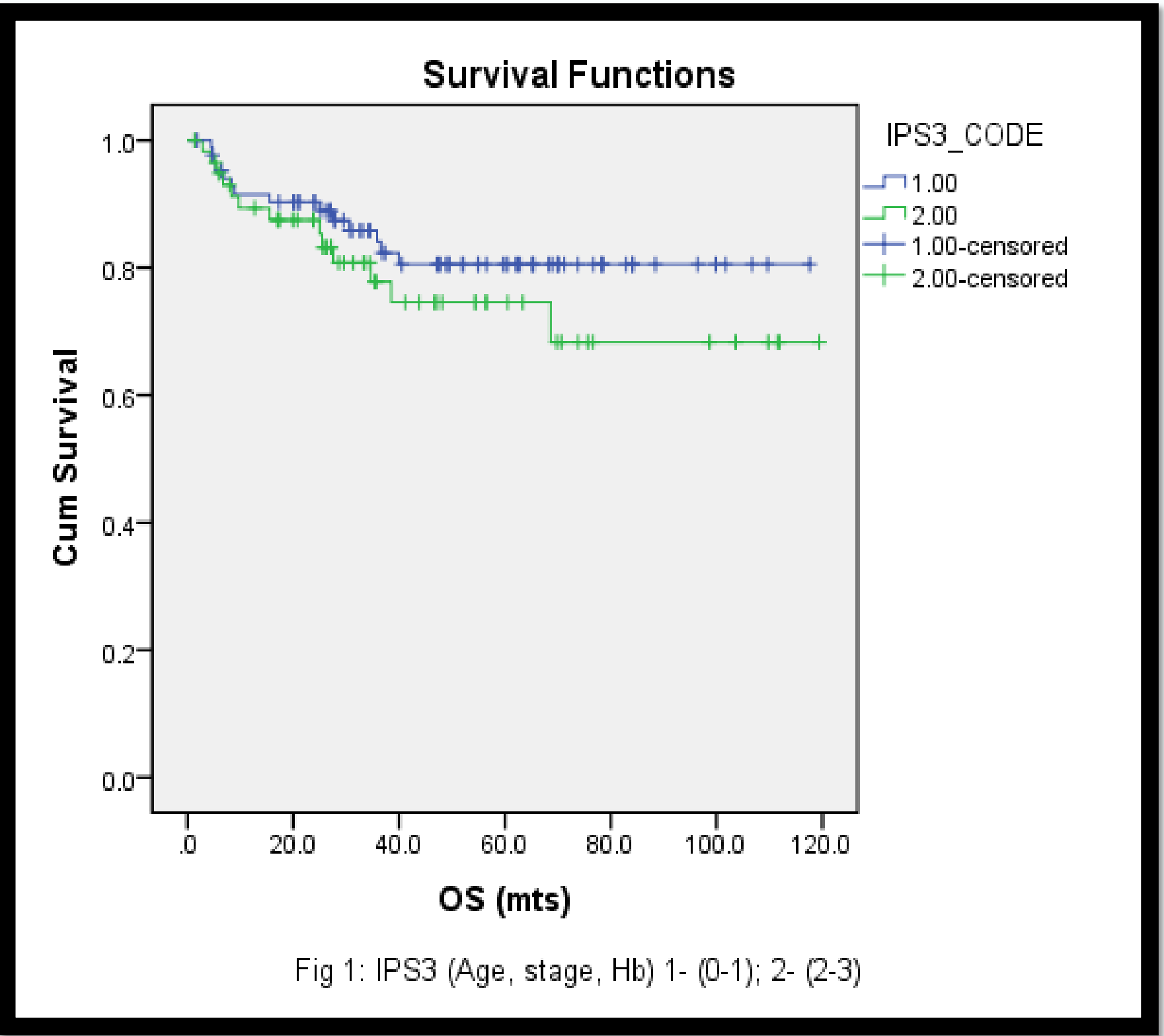


Fig 1: IPS3 (Age, stage, Hb) 1- (0-1); 2- (2-3)

Conclusions

NLR and IPS3 were able to discriminate outcomes in this analysis. However larger sample sizes would be required to validate our findings

References

1. Prognostic meaning of neutrophil to lymphocyte ratio (NLR) and lymphocyte to monocyte ration (LMR) in newly diagnosed Hodgkin lymphoma patients treated upfront with a PET-2 based strategy. Ann Hematol. 2018 Jun;97(6):1009-1018.
2. Neutrophil - Lymphocyte Ratio (NLR) at Diagnosis Is an Independent Prognostic Factor in Patients with Nodular Sclerosis Hodgkin Lymphoma: Results of a Large Multicenter Study Involving 990 Patient. Blood (2015) 126 (23): 3862.
3. Prognostic Utility of the IPS 3 Score for Predicting Outcomes in Advanced Hodgkin Lymphoma. November 2018 Clinical Lymphoma, Myeloma & Leukemia 19(2)