

# LIMITED USEFULNESS OF CA 125 MEASUREMENT IN THE MANAGEMENT OF HODGKIN'S AND NON-HODGKIN'S LYMPHOMAS

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## BACKGROUND.

Since 1995, several papers have reported the association of high CA125 serum levels with NHL. Most of the IPI's factors, bulky disease, high tumor burden, the presence of effusions, abdominal involvement, B symptoms or bone marrow involvement were found to be associated with high CA125 levels, whereas histology was not. CA125 serum levels at diagnosis has been reported to be a new prognostic factor. However, CA125 levels have rarely been examined in patients with HD.

In this study, we analyzed the clinical characteristics associated with elevated CA 125 levels at diagnosis and examined whether abnormal CA125 serum levels are associated with altered OS or PFS in 99 patients with HD or NHL.

## PATIENTS

TABLE 1 : PATIENTS' CHARACTERISTICS	
	N of patients
<b>Median age (range)</b>	56.5 yrs (15.4-88.2)
<b>Sex</b>	
Male	57
Female	42
<b>Performance status *</b>	
0 and 1	58
2 and 3	35
<b>B symptoms **</b>	
No	75
Yes	21
<b>Ann Arbor clinical stage</b>	
I	21
II	21
III	12
IV	45
<b>Histology</b>	
<b>Indolent lymphoma</b>	27
- Lymphocytic lymphoma	1
- Follicular lymphoma	15
- Malt lymphoma	6
- Unclassified	5
<b>Aggressive lymphoma</b>	51
- Diffuse large B cell lymphoma	39
- Mantle cell lymphoma	6
- Anaplastic large cell lymphoma	2
- Peripheral T cell lymphoma	3
- Burkitt's lymphoma	1
<b>Hodgkin's disease</b>	21
- Nodular lymphocyte-predominant	3
- Nodular sclerosis	16
- Mixed cellularity	1
- Unclassified	1
<b>Sites of tumor involvement</b>	
<b>Abdominal</b>	
No	50
Yes	49
<b>Mediastinal</b>	
No	59
Yes	40
<b>Bone marrow</b>	
No	71
Yes	28
<b>Effusion***</b>	
No	82
Yes	13
<b>aa IPI</b>	
0	31
1	30
2	23
3	11

## STATISTICAL ANALYSES

Presenting clinical and biological features were evaluated by Student's T tests for their association with serum CA125 levels. CA125 values were log transformed before analysis. The impact of CA125 levels and others features on OS and PFS was also evaluated by Kaplan-Meier's analyses and compared by log-rank test.

## RESULTS.

TABLE 2: ASSOCIATION WITH CA125 LEVELS AT DIAGNOSIS			
	N of patients	N (% of patients with elevated CA 125)	CA 125 median value (range)
<b>Performance status *</b>		p=0.9	p=0.0003
0 and 1	58	19 (33)	19.3 (4.4-38.0)
2 and 3	35	11 (31)	62.2 (8.4-3,050.0)
<b>B symptoms **</b>		p=0.0004	p=0.0005
No	75	19 (25)	13.5 (4.4-3,050.0)
Yes	21	14 (67)	62.2 (6.8-62.5)
<b>Ann Arbor clinical stage</b>		p<0.0001	p<0.0001
I	21	0 (0)	12.3 (8.4-33.9)
II	21	4 (19)	19.8 (4.4-138.1)
III	12	6 (20)	36.1 (11.2-381.6)
IV	45	24 (53)	43.7 (6.8-3,050.0)
<b>LDH ****</b>		p=0.01	p<0.0001
Normal	47	10 (21)	16.1 (4.4-154.1)
Elevated	51	23 (45)	43.6 (8.4-3,050.0)
<b>b2-microglobulin**</b>		p=0.0005	p=0.0002
Normal	59	13 (22)	18.6 (4.4-381.6)
Elevated	37	21 (57)	49.4 (9.4-3,050.0)
<b>CRP</b>		p=0.010	p=0.0082
< 20 mg/L	61	15 (25)	19.2 (4.4-3,050.0)
>= 20 mg/L	38	19 (50)	30.9 (8.4-1,586.0)
<b>Hemoglobin</b>		p=0.002	p<0.0001
>=12.5 g/dL	69	17 (25)	19.3 (4.4-1,580.0)
< 12.5 g/dL	30	17 (57)	49.4 (9.3-3,050.0)
<b>Histology</b>		p=0.018	p=0.6797
Indolent lymphoma	27	5 (19)	15.6 (6.8-1,418.0)
Aggressive lymphoma	51	23 (45)	33.9 (4.4-3,050.0)
Hodgkin's disease	21	6 (29)	19.8 (9.3-144.0)
<b>Sites of tumor involvement</b>			
<b>Abdominal</b>		p=0.0005	p<0.0001
No	50	9 (18)	15.6 (9.3-127.1)
Yes	49	25 (51)	74.0 (20.3-3,050.0)
<b>Mediastinal</b>		p=0.0017	p=0.0022
No	59	13 (22)	13.2 (12.6-3,050.0)
Yes	40	21 (53)	36.1 (9.3-1,586.0)
<b>Bone marrow</b>		p=0.0027	p=0.0284
No	71	18 (25)	19.8 (4.4-381.6)
Yes	28	16 (57)	49.4 (6.8-3050.0)
<b>Effusion***</b>		p<0.0001	p<0.0001
No	82	21 (26)	19.8 (4.4-3,050.0)
Yes	13	12 (92)	127.1 (9.3-1,586)
<b>aa IPI</b>		p<0.0001	p<0.0001
0	31	1 (3)	15.1 (14.4-138.1)
1	30	7 (23)	19.2 (6.8-125.4)
2	23	14 (61)	43.6 (8.4-381.6)
3	11	9 (82)	121.6 (62.2-3,050.0)

TABLE 3: COX ANALYSIS FOR PROGRESSION-FREE AND OVERALL SURVIVAL			
FACTOR	P	RR	95% CI
<b>PROGRESSION-FREE SURVIVAL</b>			
- WHOLE GROUP			
Performance status	0.0225	2.96	1.17 – 7.51
Aggressive NHL	0.0399	8.60	1.11 – 67.21
b2 microglobulin level	0.0002	5.10	2.15 – 12.14
- AGGRESSIVE NHL			
Performance status	0.0265	3.29	1.15 – 9.40
b2 microglobulin level	0.0225	3.48	1.19 – 10.18
<b>OVERALL SURVIVAL</b>			
- WHOLE GROUP			
Performance status	0.0026	5.68	1.83 – 17.62
Aggressive NHL	0.0300	3.62	1.14 – 11.55
Bone marrow involvement	0.0110	4.21	1.39 – 12.77
b2 microglobulin level	0.0002	10.45	3.05 – 35.86
- AGGRESSIVE NHL			
Performance status	0.0110	4.72	1.43 – 15.6
b2 microglobulin	0.0050	7.79	1.85 – 32.7

(\*)available in 93 patients; (\*\*)available in 96 patients; (\*\*\*)available in 95 patients; (\*\*\*\*)available in 98 patients.

## CONCLUSION

While CA125 serum level correlates with a number of features associated with more aggressive disease, it does not enhance the performance of standard prognostic factors in the treatment of patients with NHL or HD.