

Infectious Complications as a Predictor of Mortality and Failure to Achieve Complete-response in Patients with Non-Hodgkin Lymphoma

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Introduction

Chemotherapeutic regimens containing the monoclonal antibody **rituximab** have demonstrated improvement in the overall and disease-free survival in patients with non-Hodgkin lymphoma (NHL).

Infectious diseases complications are important adverse events related to rituximab increasing the **morbidity** and **mortality** of those patients.

Method

Retrospective, single-center, observational and analytical study.

Non-Hodgkin Lymphoma CD20+
Jan 1, 2011 - Dec 31, 2012

Rituximab
(at least one dose)

HIV-infected

265
patients

Two years after last course
Death
Lost to follow-up

Demographics, comorbidities, outcomes and **infections** grade 3 to 5* were registered on a standardized form.

Survival analysis and **multivariate analysis** were conducted.

Results

Table 1. Baseline characteristics

	Without infection n=180 n(%)	Infection n=85 n(%)	All n=265 n(%)	p Value
Men	71 (39)	37 (44)	108 (40.8)	0.528
Age [†] (years)	60 ± 15	60 ± 15	60 ± 15	0.961
Older than 60 years	87 (48)	45 (53)	132 (50)	0.484
Diabetes mellitus	31 (17)	15 (17)	46 (17)	0.932
Follow-up (months) [†]	28.6 ± 11.9	18.9 ± 13.3	25.5 ± 13.1	<0.001
Follicular lymphoma	41 (23)	13 (15)	54 (20)	0.158
Aggressive lymphoma	139 (77)	72 (85)	211 (80)	
I-II stage	60 (22.6)	18 (6.8)	78 (29.4)	0.04
III-IV stage	116 (43.8)	64 (24.1)	180 (67.9)	
CHOP /COP ^{††}	177 (98)	84 (99)	261 (99)	0.760
Other chemotherapy	3 (2)	1 (1)	4 (1)	
Failure to achieve complete-response	36 (20)	50 (59)	86 (33)	<0.001
Death	16 (10)	38 (48)	54 (20)	<0.001

[†]median±SD

^{††} CHOP= cyclophosphamide, doxorubicin, vincristine, and prednisone /COP= cyclophosphamide, vincristine, and prednisone

Table 2. Multivariate analysis Mortality

	OR	CI95%	p Value
Older than 60 years	3.7	1.7-8.2	0.001
Failure to achieve complete-response	3.9	1.8-8.8	0.001
Infectious complication	7.9	3.8-17	<0.001

Table 3. Multivariate analysis Failure to achieve complete-response

	OR	CI95%	p Value
Aggressive type of NHL	13.2	4.2-41.6	0.001
Infectious complication	2.5	1.2-5.3	0.001

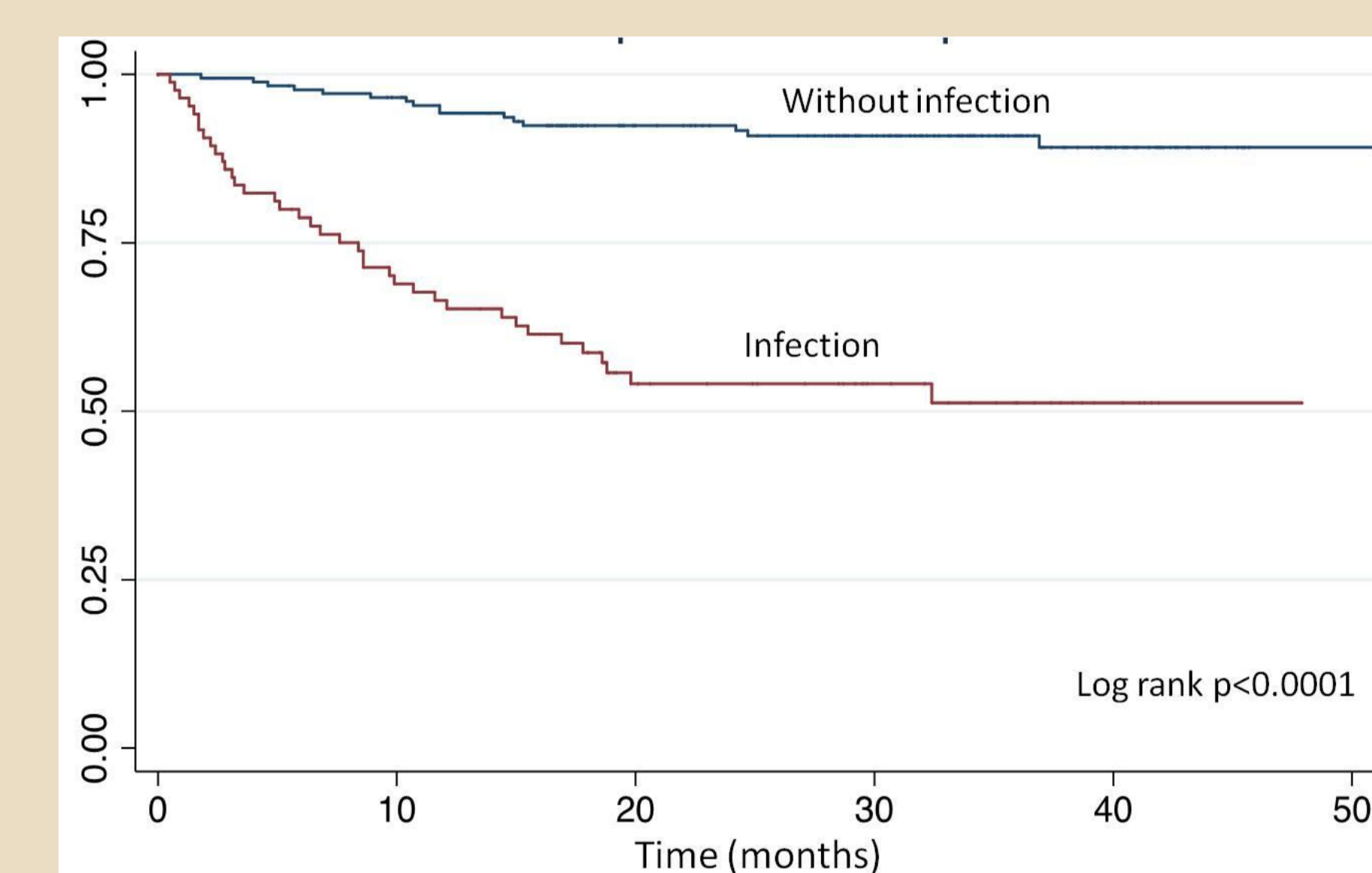


Figure 1. Overall survival Kaplan-Meier curve

Discussion

➤In other studies there were found some risk factors for the development of infectious complications: type of lymphoma¹, interval between rituximab courses and IgM fall after rituximab administration².

➤One study found that high doses of steroids may influence the frequency of infections³.

➤Most studies conclude that rituximab does not increase the incidence of infections.

➤In randomized studies that compared between R-CHOP vs CHOP chemotherapy, death associated to infectious complications had showed contradictory results: 1.9% vs 0.5% y 1.7% vs 1.9%^{4,5,6}.

Conclusions

The development of **infectious complications** in patients with **non-Hodgkin lymphoma** receiving first line chemotherapy with **R-CHOP** increases the **risk of mortality** and **failure to achieve complete-response**.

References

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*Common Terminology Criteria for Adverse Events version 4.0, NCI, NIH