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905.OUTCOMES RESEARCH-LYMPHOID MALIGNANCIES

Impact of the Mexican Healthcare Reform on Optimal Treatment Delivery, Survival, and Response Rates Among a Cohort of Patients with Diffuse Large B Cell Lymphoma in a Single National Reference Institution

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Introduction: The creation of Seguro Popular (SP) in Mexico, back in 2003, was the first step towards creating a universal healthcare system. After it was implemented, there was a 4-times boost in health spend and the creation of the Protection Fund Against Catastrophic Expenses, a fund meant for covering the costs of illnesses with a high financial burden, such as most cancers. As of January 2020, the Health Institute for Wellbeing (INSABI, Spanish acronym) has taken its place with promises to provide free health coverage for everyone. This scheme has been accompanied by multiple shortages of cancer medications due to its lack of planning and budget allocation. As a consequence, a proportion of lymphoma patients haven't been able to receive full treatment regimens. Our study aims to identify differences in survival and response rates among patients with diffuse large B cell lymphoma (DLBCL) receiving R-CHOP as first line treatment under SP and INSABI, in the National Cancer Institute (INCan) in Mexico City.

Methods: This is a retrospective study where two groups with histologically documented DLBCL were compared. Group A consisted of a cohort of adult patients treated at INCan from 2011 to 2018 under the SP scheme, receiving full funding for diagnostic approach and treatment with R-CHOP as first line therapy. Group B consisted of a cohort of adult patients treated at INCan from 2020 to 2021 under INSABI's gratuity policy, receiving R-CHOP as first line therapy. Variables collected included sex, age at diagnosis, comorbidities, B-symptoms, molecular subtype, stage, bulky disease, and IPI, among others. Optimal treatment was evaluated and defined as the proportion of patients who received full drugs' dosage according to the recommendation of the attending physician. Response was assessed with 18F-FDG PET-CT according to the Lugano classification, and was defined as the proportion of patients with complete remission (CR) for all patients evaluable for response. Event free survival (EFS) was defined as time to relapse or progression during treatment. Overall survival (OS) was defined as time to death in years from the date of primary diagnosis. The significance of variation in the distribution of outcomes with healthcare regime (SP, INSABI) was assessed with Pearson's Chi-square tests or Fisher's Exact test as appropriate. Survival distributions were done with Kaplan-Meier methodology. Cox regression analysis was used to evaluate factors influencing on relapse rate and survival. All statistical testing was two sided and differences between groups were regarded as significant for p values <0.05.

Results: Group A consisted of 505 patients, 258 were female (51%), with a mean age of 55.5 ± 13.6 years. Group B consisted of 169 patients, 94 were female (55%), with a mean age of 55.9 ± 12.7 years. Other demographic and clinical prognostic factors were similar in both groups, as shown in table 1. While both groups received treatment in 100%, 14.2% patients in group A received diminished doses of chemotherapy due to attending physicians' criteria, no other causes of dose modifications were found. In group B, 11.2% of patients received diminished doses of chemotherapy due to medical reasons as indicated by attending physicians, while 33.7% of patients received diminished doses of chemotherapy due to drug shortages. Overall response rate (ORR) for group A was 82.7%, while for group B was 73% ($p = 0.05$). CR for group A was 75.2%, and for group B was 60.4% ($p = 0.00$). Progression rate for group A was 14.8%, while for group B was 13%; relapse rate for group A was 14.6%, while for group B was 12.4%, not statistically significant ($p = 0.5$). EFS for group A was 85.3% and for group B was 87.6%, while OS for group A was 75.8% and for group B was 78.1%.

Conclusion: Our study shows important differences in optimal treatment delivery for first-line R-CHOP in DLBCL during the INSABI era, compared to the SP era. Under the SP regime, the only reason for diminishing chemotherapy doses were medical

reasons, usually in relation to cardiac comorbidities or patient's performance status. During the INSABI era, drug shortages account for incomplete treatment delivery in 33.7% of the cases. After Cox regression analysis, the administration of an optimal treatment was a factor that tends to influence EFS (p = 0.34). However, a longer follow-up time and further research is needed to assess the long term effects of the incomplete chemotherapy administration in group B.

Disclosures No relevant conflicts of interest to declare.

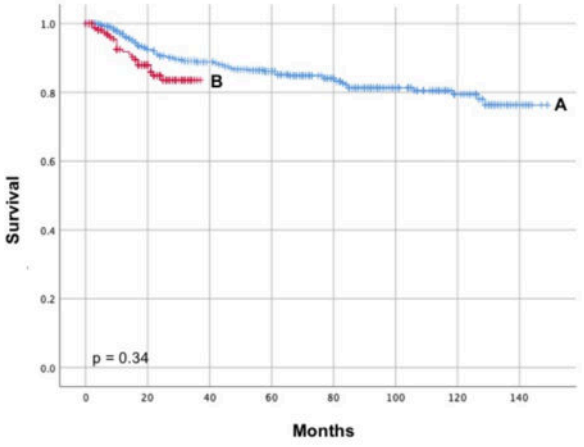

Figure 1. Event free survival comparison between both groups.

	Group A: patients under SP n (%)	Group B: patients under INSABI n (%)
Patients	505	169
Gender		
Female	258 (51.1)	94 (55.6)
Male	247 (48.9)	75 (44.4)
Age, mean ± SD (range)	55.5 ± 13.6	55.9 ± 12.7
Diabetes type 2	74 (14.6)	24 (14.2)
Systemic Hypertension	70 (15.6)	48 (34.3)
ECOG		
0	89 (17.6)	1 (0.6)
1	302 (59.8)	121 (71.6)
2	90 (17.8)	34 (20.1)
3	20 (4)	10 (5.9)
4	4 (0.8)	3 (1.8)
B symptoms		
Yes	221 (43.8)	68 (40.2)
No	284 (56.2)	101 (59.8)
HIV status		
Positive	0 (0)	3 (1.8)
Negative	505 (100)	166 (98.2)
Hepatitis status		
Positive	5 (1)	2 (1.2)
Negative	500 (99)	167 (98.8)
Clinical stage		
I	57 (11.3)	32 (18.9)
II	110 (21.8)	36 (21.3)
III	112 (22.1)	23 (13.6)
IV	226 (44.8)	78 (46.2)
Bulky disease		
Yes	240 (47.5)	68 (40.2)
No	265 (52.5)	101 (59.8)
International prognostic index		
I	146 (28.9)	45 (26.7)
II	124 (24.5)	56 (33.1)
III	123 (24.4)	37 (21.9)
IV	112 (22.2)	31 (18.3)
CNS-IPI		
Low	239 (47.3)	56 (33.2)
Intermediate	246 (48.8)	88 (52)
High	20 (3.9)	25 (14.8)
R-CHOP cycles		
1	4 (0.8)	6 (3.6)
2	11 (2.2)	7 (4.1)
3	14 (2.8)	12 (7.1)
4	31 (6.1)	26 (15.4)
5	18 (3.6)	6 (3.5)
6	212 (41.9)	109 (64.5)
7	17 (3.4)	0 (0)
8	198 (39.2)	3 (1.8)
Response		
Complete	380 (75.2)	102 (60.4)
Partial	38 (7.5)	23 (13.6)
Stable disease	5 (1)	3 (1.8)
Progressive disease	75 (14.9)	22 (13)
Not evaluable	7 (1.4)	19 (11.2)
Relapse	74 (14.6)	21 (12.4)

Table 1. Demographic, treatment, and response characteristics in both groups.

Figure 1

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