Effectiveness and safety of early high-efficacy vs. escalation therapy in relapsing-remitting multiple sclerosis in Argentina

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Introduction

Escalation (ES) and early high-efficacy (EHE) therapies have been the main treatment strategies adopted in multiple sclerosis (MS) in recent years.

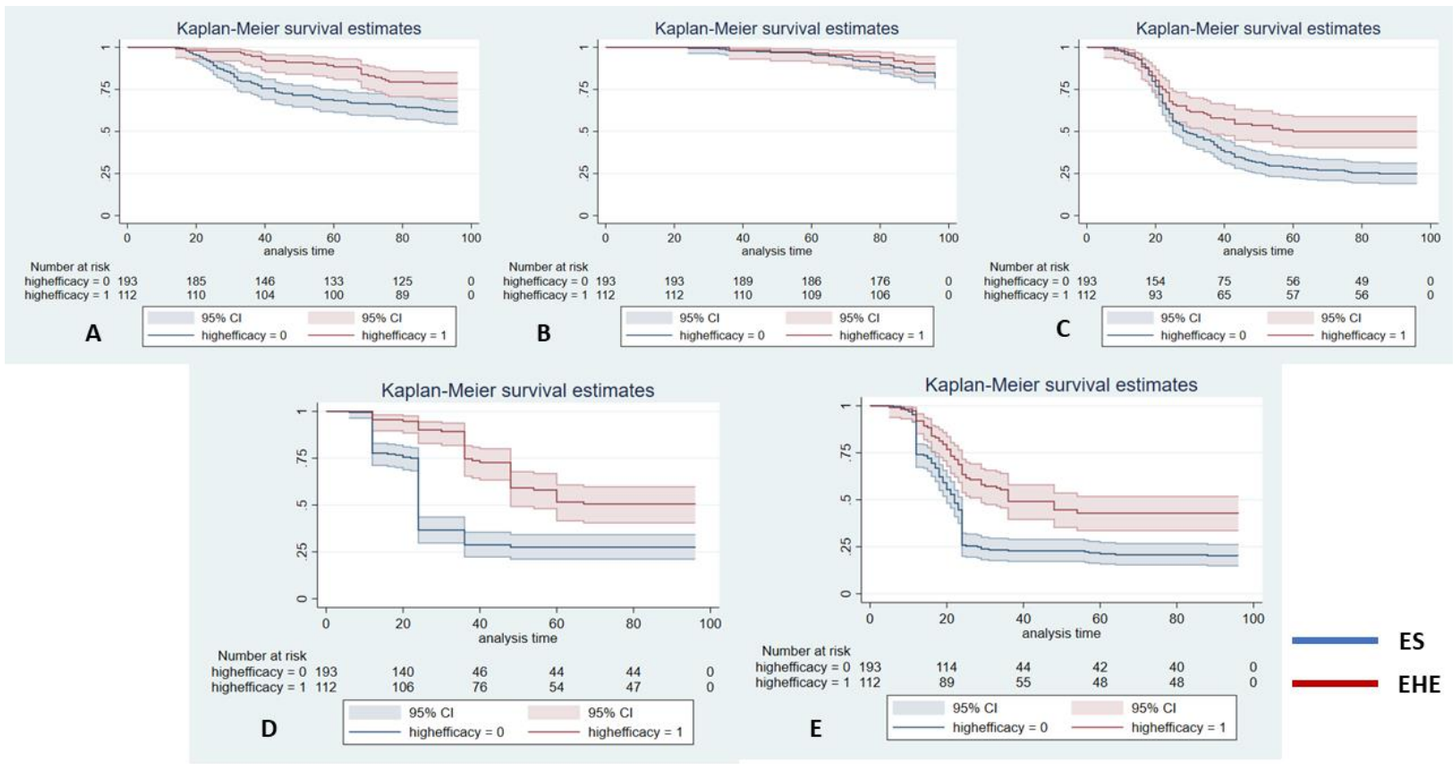
Objective

- The aim of this study was to compare the effectiveness and safety of EHE vs. ES strategies in MS patients from Argentina.

Methods

A retrospective multicenter cohort study conducted in Argentina. Patients were categorized into two groups as follows: EHE if received natalizumab, ocrelizumab, rituximab, alemtuzumab, mitoxantrone or cladribine; and ES if received interferon beta, glatiramer acetate, teriflunomide, dimethyl fumarate or fingolimod as initial therapy. The primary outcome was confirmed disability progression (EDSS [expanded disability status scale] increase). Additional outcomes included the proportion of patients and time to: EDSS 6; new relapses; new T2-MRI (magnetic resonance imaging) lesions; no evidence of disease activity (NEDA); and specific adverse events. Propensity score (PS)-based nearest-neighbor matching (without replacement) was applied to homogenize the sample, and Cox regression model stratified by matched pairs was used for the analysis

	N= 431
Mean age at study entry, SD (years)	38.6 ± 9.9 (range 18-55)
Mean age at disease onset, SD (years)	31.2 ± 9.6 (range 18-50)
Mean age at disease diagnosis, SD (years)	32 ± 9.8 (range 18-55)
Female gender, n (%)	259 (60%)
RRMS phenotype at disease onset, n (%)	431 (100%)
Mean disease duration, SD (years)	7.4 ± 2.4 (range 5-10)
Early high efficacy therapy as first treatment (EHE)	112 (26%)
Escalation therapy	319 (74%)
Median EDSS, SD (at study entry)	2.5 ± 1.6 (range 0-8)
Median EDSS, SD (at disease onset)	1.5 ± 1 (range 0-4)



Survival curves A= EDSS progression; B= EDSS-6; C= relapses; D= new MRI lesion; E= NEDA ; time is expressed in months

Results- I

A total of 431 patients were included. The mean age at study entry of the entire cohort was 38.6 ± 9.9 years, mean age at disease onset 32 ± 9.8 years, 60% were female, and 112 (26%) patients initiated the treatment for MS with EHE while 319 (74%) initiated with ES.

Results- II

EDSS progression

Regarding the risk of EDSS progression between EHE and ES therapies, we observed an increased risk of progression in ES vs. EHE. During follow-up, almost 80% of patients in EHE were free from EDSS progression vs 53% in ES, (p=0.0003 log rank test). The Cox regression analysis showed that, when adjusted for co-variables, EHE significantly decreased the risk of EDSS progression (hazard ratio [HR] 0.62, IC95% 0.40-0.98, p=0.04)

Results – III

Relapses

Regarding the risk of a new relapse during follow-up between EHE and ES therapies, we observed a significant increased risk in ES vs. EHE. During the follow-up, almost 60% of patients in EHE were free from relapses vs 25% in ES, (p<0.0001 log rank test). The Cox regression analysis showed that, when adjusted for co-variables, EHE significantly decreased the risk of relapses (HR 0.66, IC95% 0.49-0.89, p=0.006)

Results- IV

New MRI lesion

Regarding the risk of having MRI lesion activity during follow-up between EHE and ES therapies, we observed a significant increased risk in ES vs. EHE. During follow-up, almost 50% of patients in EHE were free from new MRI lesions vs 22% in ES, (p <0.0001 log rank test). The Cox regression analysis showed that, when adjusted for co-variables, EHE significantly decreased the risk of new MRI activity during follow-up (HR 0.55, IC95% 0.40-0.75, p=<0.001)

Conclusions

- Our study shows that EHE therapies prevent disease progression, relapses and new MRI lesions and demonstrated no increased risk of specific adverse events when compared to ES therapy. This data should be considered when selecting a specific treatment for MS patients.

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References

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