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First year of emicizumab prophylaxis: Preliminary results of the Brazilian Registry of Emicizumab (EMCase Study)

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INTRODUCTION

Emicizumab is a bispecific antibody recommended for prophylaxis against bleeding events in people with hemophilia A without (PwHA) or with inhibitors (PwHAi). The EMCase Study is a registry of PwHA/PwHAi in prophylaxis with emicizumab in Brazil.

AIM

To evaluate the annualized rates of bleeding prophylaxis (ARB) treated one year before and during the first year of treatment with emicizumab.

METHOD

PwHA/PwHAi on emicizumab prophylaxis were invited to each participating Hemophilia Treatment Center (HTC). Clinical data from before (12 months) and during (12 months) emicizumab prophylaxis were collected. Bleedings were classified as spontaneous (undetermined trauma), post-traumatic and unknown cause, and only counted if they received any treatment for hemostasis. The ARB--total corresponded to the sum of the bleeds treated over time, transformed into a period of 365.25 days (annualization).

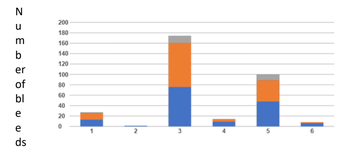
RESULTS

A total of 50 PwHA (n = 9) and PwHAi (n = 41) registered at 11 HTCs had at least 1 year of prophylaxis with emicizumab (Table 1). Of this total, 34/50 (68%) had severe hemophilia A. Immunotolerance was performed in 36/50 (72%), with 1 successful case. Before starting emicizumab, 38/50 (76%) PwHA/PwHAi were on prophylaxis, 12/50 (24%) were receiving episodic treatment only (all PwHAi) and 41/50 (82%) were receiving bypass agents. The median age at starting emicizumab was 12 years (range 1-71). Only 1 PwHA/PwHAi did not receive emicizumab, while the rest received 3 mg/kg/week over 4 weeks. The most commonly prescribed maintenance regimen was 1.5 mg/kg/week (26/50; 52%). The median duration of emicizumab prophylaxis was 1.9 years (range 1.2-3.7).

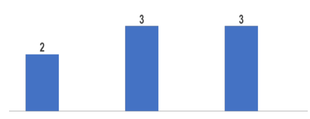
Table 1: Characteristics of the participants.

Features	n	Results
Male , n (%)	50	49 (98%)
Age at diagnosis of hemophilia A, in years, median (interquartile range/IIQ; range	50	1 (0-2; 0-61)
Severity, n (%)	50	
Light		1 (2%)
Moderate		11 (22%)
Severe		34 (68%)
Unknown		4 (8%)
Presence of inhibitors, n (%)	50	
Never		8 (16%)
Past		1 (2%)
Present		41 (82%)
History of immunotolerance, n (%)	50	
Never		14 (28%)
Past		36 (72%)
Present		0 (0%)
Therapeutic modality before starting emicizumab, n (%)	50	
Exclusively episodic		12 (24%)
Primary prophylaxis		9 (18%)
Secundary/tertiary prophylaxis		29 (58%)
Product (s) in use immediately before starting emicizumab, n (%)	50	
Partially activated prothrombin complex (aCPP)		20 (40%)
Recombinant activated factor VII (rFVIIa)		7 (14%)
aCPPa + rFVII		13 (26%)
Recombinant factor VIII (rFVIII)		9 (18%)
rFVIII + rFVIIa		1 (2%)
Age at start of emicizumab use, in years, median (IIQ; range)	50	12 (6-20; 1-71)
Duration of emicizumab use, in days, median (IIQ; range)	50	700 (662-754; 433-1364)
Most common emicizumab regimen, n (%)	50	
3,0 mg/kg/sem, for 4 weeks		48 (96%)
9,0 mg/kg/sem, for 4 weeks		1 (2%)
Did not perform		1 (2%)
Emicizumab maintenance regimen, n (%)	50	
1,5 mg/kg every 1 week		26 (52%)
3,0 mg/kg every 2 weeks		18 (36%)
6,0 mg/kg every 4 weeks		4 (8%)
Other regimen		2 (4%)

Charts 1, 2 and 3 describe the total number of bleeds, the total ABR and the frequency of people with zero bleeds, respectively. For PwHA, the total number of hemorrhagic events treated decreased from 27 (13 post-traumatic) to 1 (1 post-traumatic), the median (range) of the ABR-total decreased from 2 (0-5) to 0 (0-1) and the number of PwHA with zero bleeding increased from 2/9 (22%) to 8/9 (89%). Among all PwHAi, the total number of hemorrhagic events treated decreased from 174 (76 post-traumatic) to 14 (9 post-traumatic), the median (range) of the ABR-total decreased from 3 (0-16) to 0 (0-3) and the number of PwHAi with zero bleeding increased from 8/41 (20%) to 30/41 (73%). Among PwHAi undergoing prophylaxis, the total number of bleeding events treated decreased from 100 (48 post-traumatic) to 8 (6 post-traumatic), the median (range) of the ABR-total decreased from 3 (0-16) to 0 (0-2) and the number of PwHAi with zero bleeding increased from 6/29 (21%) to 22/29 (76%). No adverse events were reported.

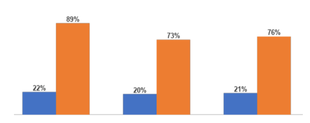


Graph 1. Total bleeding treated one year before and during the first year of prophylaxis with emicizumab.
PwHA - people with hemophilia A without inhibitors
PwHAi - person with hemophilia A and inhibitors



*Year before emicizumab

Graph 2. Median annualized rate of total bleeds treated one year before and during the first year of prophylaxis with emicizumab.
PwHA - people with hemophilia A without inhibitors
PwHAi - person with hemophilia A and inhibitors



*Year before emicizumab

Graph 3. Frequency of people with zero bleeding one year before and during the first year of emicizumab prophylaxis.
PwHA - people with hemophilia A without inhibitors
PwHAi - person with hemophilia A and inhibitors

CONCLUSIONS

tABR was reduced during emicizumab prophylaxis compared to prior prophylaxis in both PwHA and PwHAi.

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