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THE SMOKING INFLUENCE ON IMMUNOBIOLOGICAL SWITCH IN THE TREATMENT OF RHEUMATOID ARTHRITIS: DATA FROM BIOBADABRASIL

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BACKGROUND

Several studies have suggested that smoking is associated with greater clinical severity and worse treatment response in patients with rheumatoid arthritis (RA). Despite the advancements in RA treatments based on biological therapy, several patients do not respond to treatment in a satisfactory manner and require changing these medications many times. The aim of the current study is to investigate the influence of smoking on the need to change immunobiologicals administered to RA patients undergoing treatment.

MATERIALS AND METHODS

Cohort study conducted with RA patients enrolled in the Brazilian Biological Therapy Monitoring Registry – BiobadaBrasil – between January 2010 and November 2019. The first evaluation focused on data about smoking habits and biological medication type used by patients; the number of times it was necessary changing these medications was recorded during follow-up.

RESULTS

1,980 patients (1,688 women and 292 men) mean age of 43.43 years (95% CI: 42.89–43.98) were assessed; 292 of them were smokers (14.75%). Smokers presented a risk of changing the biological agent 14% higher than non-smokers (Table 1), if one takes into consideration reasons such as adverse event, effectiveness loss, among others, except when the reason was death or remission.

Table 1. The smoking influence on immunobiological switch in the treatment of rheumatoid arthritis patients; data from BIOBADABRASIL, from January 2010 to November 2019.

Variables	Biological switch, n (%)		Gross RR (95% CI)	p-value
	Yes	No		
Smoking habit				
Yes	173 (59.25)	119 (40.75)	1.14 (1.02–1.26)	0.023
No	879 (52.07)	809 (47.93)	1.00	

Source: The authors (2020).

The investigated patients recorded mean number of times immunobiological drugs were changed equal to 0.71 (95% CI: 0.65–0.75; median = 0; p 75 = 1; min = 0; max = 7). Figure 1 shows that the number of times biological agents were changed was statistically significant ($p = 0.045$) and larger among smokers (0.83; 95% CI: 0.68–0.98) than among non-smokers (0.68; 95% CI: 0.63–0.74).

Figure 1. Comparison of the mean number of times the immunobiological agent was changed between smokers and non-smokers.

CONCLUSION

The analysis applied to data from BiobadaBrasil has shown that smoking habit was associated with higher probability of immunobiological switch in the treatment of RA patients.