

ABSTRACT

Consumption of similar biological medicinal products (biosimilars) in the Czech Republic

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Introduction: Biological treatment is a modern alternative to chemotherapeutics especially in patients with difficult-to-treat diseases of autoimmune origin, as well as patients with other diseases. Biosimilars are biological medicinal products similar to the original biologics. They are increasingly used in a wide range of indications. A new biosimilar drug is registered every year, as soon as the patent protection of the original biologics expires. The assumption is that the consumption of biosimilars and biologics in the Czech Republic will increase. The question is to what extent it will increase and what is the market share of biosimilars.

Objective: The aim of the diploma thesis was to analyze the consumption of biosimilar epoetin, adalimumab, infliximab and etanercept in the Czech Republic in 2010–2020.

Methods: A retrospective analysis of the consumption of biosimilars epoetin, adalimumab, infliximab and etanercept was performed from 1. 1. 2010 to 31. 12. 2020. The selection of specific biosimilars was made on the basis of their wide indication spectrum. Consumption data were obtained from the database of the State Institute for Drug Control (SÚKL). Descriptive statistics were used for the analysis. Consumption, given in defined daily doses (DDD), was then converted to relative consumption (DID), which is a defined daily dose/1000 inhabitants/day. Population data were obtained from the Czech Statistical Office.

Results: The consumption of the studied biosimilars in the Czech Republic is increasing. Consumption of biosimilar adalimumab increased 6.5 times. Consumption of biosimilar infliximab increased 4.7 times and consumption of biosimilar etanercept increased 1.5 times with etanercept. There was a decrease (1.2 times) in the consumption of biosimilar epoetin, yet it still has the highest consumption (DID 1.3076) of all monitored biosimilars in the last monitored year. In the second place is adalimumab (DID 0.0035). The third place belongs to etanercept (DID 0.0020) and last one is infliximab (DID 0.0017).

Conclusion: The growing consumption of biosimilars is likely to reflect many factors, including, in particular, the trust of physicians, the substitution of the original biological drug for biosimilars, the country's drug policy, the lower cost for biosimilars compared to the original products, and the promotion of their use. Decreasing consumption of epoetins may be due to side effects or a new, cheaper therapeutic option. Promoting and spreading awareness from medical chambers and the State Institute for Drug Control could ensure an increase in the consumption of biosimilars.

Key words: drug consumption, biosimilars, epoetin, adalimumab, infliximab, etanercept