CARDIAC TOXICITY STUDY IN PATIENTS USING RITUXIMAB AND TRASTUZUMAB

Valente, P.M S.[1*]; Martins, W.A.[2]; Castilho, S.R.[3]

[1] ,[3]Posgraduate Program in Sciences Applied to Health Products. Fluminense Federal University, Niterói, Rio de Janeiro Brazil.
[2] Universitary Hospital Antõnio Pedro, Fluminense Federal University, Niterói, Rio de Janeiro, Brazil.
*pvalente@id.uff.br

Introduction

The evolution of cancer treatment has resulted in the development of new therapies related to specific molecular targets such monoclonal antibodies. However, adverse effects of antitumor therapy can limit treatment continuity and reduce patient survival. Among the adverse effects, cardiotoxicity is responsible for high morbidity and mortality, which may appear during or after the end of treatment[1].

The aim of the study was to evaluate the occurrence of adverse cardiovascular reactions in oncohematological patients using the monoclonal rituximab and trastuzumab.

Material and Methods

A study was carried out, based on the analysis of medical records, of all oncohematological patients who received treatment with rituximab for non-Lymphoma Hodgkin and trastuzumab for the treatment of HER2 positive breast cancer, from 2013 to 2018 at Universitary Hospital Antônio Pedro. The project was approved by the University's Research Ethics Committee. They were identified as infusional and late cardiovascular reactions, and the Naranjo[2] Algorithm and a classification of reactions according to severity were sent. Risk factors and their association with cardiotoxicity were investigated. From 2018 to 2020, in addition to the analysis of medical records, the information was complemented by indications with patients using rituximab and trastuzumab.For the interviews, patients with many risk factors, suspected of cardiotoxicity or in cases of supplemental information were selected. For data analysis, a Cardiotoxicity Assessment Form was used.

Results and Discussion

For rituximab, the main risk factors for cardiotoxicity were: arterial hypertension (47.9%), diabetes mellitus (22.9%), smoking (31.3%) and previous use of anthracyclines (87.5%) .48 patients were analyzed, and cardiovascular reactions were identified in 18 patients (37.5%). Reactions were mainly infusional and early. Heart failure (HF) was observed in 4 patients, and only 1 patient could HF be attributed to the use of rituximab. None of the risk factors analyzed proved to be significant in identifying Adverse Drug Reation (ADR) with the use of rituximab. The main monitoring measures were the use of protocols without doxorubicin and the control of cumulative doses.

For trastuzumab, the main risk factors for cardiotoxicity were: arterial hypertension (52.7%), diabetes mellitus (21.8%), smoking (32.7%), obesity (29.1%), previous use of anthracyclines (45.5%) and radiotherapy (56.4%) and cardiovascular reactions occurred in 50.9% of patients and were mainly late. In the study, 12 patients developed HF, but only smoking had a statistically significant association (p=0.010). For trastuzumab, the main measure for monitoring cardiac ADR was follow-up by echocardiography and the main barriers found for monitoring oncohematological patients were: the absence of internal protocols (60%), followed by the difficulty of communication between sectors (40 %). As the hospital did not have

cardiotoxicity monitoring protocols, at the end of the study, two monitoring protocols for oncohematological drugs with cardiotoxic potential were suggested for the hospital sectors and 4 clinical cases were prepared, 3 of which were already published.

Conclusion

Assess the occurrence of cardiac ADR among patients using rituximab and trastuzumab treated at the hospital, as well as investigate risk factors and their association with cardiotoxicity, identify monitoring measures and barriers, and propose prevention and monitoring protocols for the drugs analyzed, contributing to a safer therapy for patients.

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