

عنوان مقاله:

Comparative Evaluation of Biosimilar Trastuzumab with Reference Trastuzumab Activity in HER2-Positive Breast Cancer Patients

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خلاصه مقاله:

One of the breast cancer subtypes, epidermal growth factor receptor 2 (HER2), accounts for 15% of all breast cancers and is characterized by aggressive behavior and a poor prognosis. For patients with HER2-positive breast cancer, trastuzumab, a monoclonal antibody that targets HER2 receptors, is prescribed in addition to chemotherapy to increase their chances of survival. However, the high expense of this treatment makes it impossible for patients in developing nations to easily afford it and undergo this biological therapy. Consequently, trastuzumab biosimilars have been launched as a substitute that offers comparable effectiveness at a reduced price. This study aimed to compare the biological activity and cardiac safety of reference trastuzumab with biosimilar trastuzumab by monitoring serum levels of the tumor biomarker CA15-3 and evaluating N-terminal pro-B-type natriuretic peptide (NT-proBNP) for the adverse cardiac effects of both treatments on HER2-positive breast cancer patients before and after six cycles of biological therapy. This prospective research was performed on 36 females with metastatic and early-stage HER2-positive breast cancer who visited the Oncology Department at Rizgary Hospital, Erbil, Iraq. The patients were within the age range of 30-80 years old. Eighteen individuals received reference trastuzumab, while the remaining 18 received both chemotherapy and biosimilar trastuzumab. Each patient had a data sheet that contained details from hospital-reserved files. In the Herceptin group, there was an insignificant difference in the median of CA15-3, while no significant difference was detected between the means of NT-proBNP before and after treatment. In the biosimilar group, there was a significant reduction in the median CA15-3 as well as a significant increase in the level of NT-proBNP before and after the treatment. Evaluation of the association of trastuzumab-induced cardiotoxicity during breast cancer treatment with different factors indicated that there might be an increased risk of cardiotoxicity after trastuzumab treatment

کلمات کلیدی:

biosimilar trastuzumab, Breast cancer, Chemotherapy, HER2-positive breast cancer, reference trastuzumab

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