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Commentary

to *Recent advances in the treatment of triple-negative breast cancer*

In about 10–15% of breast cancer patients, the tumor is characterized by the absence of steroid hormone receptors and epidermal growth factor receptor 2 on the cell surface — this biological subtype is classified as triple-negative breast cancer (TNBC). Genetic abnormalities (e.g. *BRCA* gene mutations) are common in TNBC. Triple-negative breast cancer is a difficult-to-treat tumor for several reasons — it is common in younger women and has an aggressive clinical course with a higher stage at diagnosis and early recurrence, resulting in an overall poorer prognosis. The unsatisfactory outcomes in patients with TNBC were related to limited systemic treatment options, which until recently consisted only of cytotoxic drugs. The evolution of knowledge about molecular biology has resulted in a better understanding of many conditions in TNBC and introduction of new treatment options although chemotherapy remains important. New treatment options for patients with TNBC include immune checkpoint inhibitors, inhibitors of poly(ADP-ribose) polymerase (PARP) in patients with *BRCA* genes mutations, and molecularly targeted drugs [e.g. conjugate composed of a monoclonal antibody against trophoblast-cell surface antigen 2 (TROP-2) and cytotoxic drug from topoisomerase I class]. All those options and chemotherapy can be used in the treatment of patients with advanced TNBC. However, depending on the demographic, clinical, and molecular characteristics, it is possible to use different sequences of treatment in the first line and beyond. An example of sequential treatment may be the use of chemotherapy with atezolizumab, then talazoparib (patients with *BRCA* genes mutations) and sacituzumab govitecan, and again chemotherapy. The situation of patients with TNBC indicates the possibility of treatment individualization and, at the same time, is an example of significant benefits obtained as a result of using modern drugs. Side effects of these drugs should be considered, which justifies the ability to manage treatment processes (e.g. immuno-related complications in the case of immune checkpoint inhibitors). The assessment of patients' quality of life — carried out in the trials with all these drugs — confirmed better outcomes in patients receiving immunotherapy, PARP inhibitors, and other new drugs compared to patients in the control groups.

The authors from the Department of Breast Cancer and Reconstructive Surgery of the Maria Sklodowska-Curie National Research Institute of Oncology in Warsaw have prepared a very detailed discussion of all the new options, highlighting the most important benefits resulting from using the presented drugs. The greatest advantage of the report is the presentation of the sequential treatment algorithm for patients with advanced TNBC.

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