

Risk factors for long-term arm morbidities following breast cancer treatments

December 11 2023



Three-dimensional culture of human breast cancer cells, with DNA stained blue and a protein in the cell surface membrane stained green. Image created in 2014 by Tom Misteli, Ph.D., and Karen Meaburn, Ph.D. at the NIH IRP.

A new review paper titled "[Risk factors for long-term arm morbidities following breast cancer treatments: A systematic review](#)" has been published in *Oncotarget*.

In this review, researchers Ifat Klein, Michael Friger, Merav Ben David, and Danit Shahr from Assuta Medical Center and Ben-Gurion University of the Negev in Israel aimed to examine the risk factors for arm [morbidity](#) following breast cancer treatments. The team took a broad view of all types of physical morbidity, including prolonged pain, lymphedema, decreased range of motion, and functional limitations.

"A systematic literature review was performed according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Guidelines," the researchers write.

Studies exploring the risk factors for prolonged arm morbidity following breast cancer surgery and treatments were included. The studies were assessed independently according to pre-eligibility criteria, following data extraction and methodological quality assessment. In total, 1,242 articles were identified. After removing duplicates, the full texts of 1,153 articles were examined. Sixty-nine of these articles met the criteria and were included in the review.

These 69 articles identified 29 risk factors for arm morbidity following treatments for breast [cancer](#). The risk of bias was evaluated using NIH study quality assessment tools. The studies reviewed were published between 2001 and 2021 and included a total of 22,886 patients who were followed up for between three months and 10 years. The main risk factors for long-term morbidity are removal of lymph nodes from the axilla, body mass index >30, having undergone a mastectomy, the stage of the disease, [radiation therapy](#), chemotherapy, infection and trauma to the affected arm after surgery.

"An understanding of the [risk factors](#) for prolonged arm morbidity after surgery can help doctors and therapists in making personalized decisions about the need and timing of rehabilitation treatments," the researchers conclude.

More information: Ifat Klein et al, Risk factors for long-term arm morbidities following breast cancer treatments: A systematic review, *Oncotarget* (2023). [DOI: 10.18632/oncotarget.28539](https://doi.org/10.18632/oncotarget.28539)

Provided by Impact Journals LLC

Citation: Risk factors for long-term arm morbidities following breast cancer treatments (2023, December 11) retrieved 8 May 2024 from <https://medicalxpress.com/news/2023-12-factors-long-term-arm-morbidities-breast.html>

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