

<https://doi.org/10.29289/25945394V36S11099>

1099 – Chemotherapy for breast cancer during pregnancy: evaluation of maternal–fetal safety and therapeutic efficacy

Maria Maria Sanches de Oliveira¹, Alberto Vilela Lopes Dávila¹, Geovanna Aires Silva¹, Maria Eduarda Pereira de Souza¹, Marina Ribeiro Castro¹

¹Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer is the most common malignancy diagnosed during pregnancy, creating a therapeutic dilemma that requires effective maternal treatment while protecting the fetus. Evidence suggests that chemotherapy after the first trimester, mainly anthracyclines and taxanes, does significantly elevate the risk of congenital malformations, although prematurity and a low birth weight remain concerns. Long-term child outcomes are still uncertain.

Objective: To assess the safety and efficacy of chemotherapy during pregnancy in patients with breast cancer.

Methodology: An integrative review was conducted via the PubMed database, utilizing MeSH terms related to breast cancer, pregnancy, chemotherapy, and therapeutic outcomes. English-language studies published from 2015 to 2025 were included if they evaluated the safety and/or efficacy of chemotherapy during pregnancy. Clinical trials, observational studies, cohorts, case series, and case reports with maternal and fetal data were eligible. Studies on fertility preservation, isolated hormonal therapy, narrative reviews, and nongestational settings were excluded. Main outcomes were disease-free survival, overall survival, recurrence, prematurity, congenital malformations, and birth weight.

Results: Anthracycline- and taxane-based regimens administered after the first trimester showed maternal oncologic outcomes comparable to those of nonpregnant patients after adjustment for stage and tumor factors. Serious maternal events and congenital malformations were uncommon. Still, prematurity, low birth weight, and neonatal intensive care admission remained important risks, often linked to iatrogenic preterm delivery. Anti-HER2 agents were strongly associated with oligohydramnios or anhydramnios and poorer perinatal outcomes and therefore should be avoided.

Conclusion: Chemotherapy with anthracyclines and taxanes in the second and third trimesters appears to be effective and relatively safe in pregnancy-associated breast cancer. The main gap in literature is the lack of robust, long-term prospective data on neurocognitive and cardiac outcomes in exposed children. Individualized multidisciplinary care focused on reducing iatrogenic prematurity is essential.

Ethics: Public data – Literature review.

Keywords: breast neoplasms; pregnancy; chemotherapy.