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Breast Cancer Survivors Are Less Likely to Get Pregnant, but Often Have Healthy Babies and Good Long-term Health

SAN ANTONIO – A large meta-analysis of breast cancer survivors of childbearing age indicated that they are less likely than the general public to get pregnant, and they face higher risk of certain complications such as preterm labor. However, most survivors who do get pregnant deliver healthy babies and have no adverse effects on their long-term survival, according to data presented at the [2020 San Antonio Breast Cancer Symposium](#), held Dec. 8-11.

“With the availability of more effective anticancer treatments, survivorship has gained substantial attention. Today, returning to a normal life after cancer diagnosis and treatment should be considered as a crucial ambition in cancer care. In patients diagnosed during their reproductive years, this includes the possibility to complete their family planning,” said the study’s corresponding author, Matteo Lambertini MD, PhD, adjunct professor in medical oncology at the University of Genova – IRCCS Policlinico San Martino Hospital in Genova, Italy.

As the average age for pregnancy has risen over time, it has become more common for women to be diagnosed with breast cancer before having a child. Also, Lambertini explained that many of the anticancer therapeutics that have successfully reduced mortality from breast cancer have possible long-term toxic effects on the body, including potentially damaging fertility and future family planning. For example, the adjuvant endocrine therapy that is prescribed for women diagnosed with hormone receptor-positive breast cancer is given for five to 10 years after diagnosis; during this treatment, pregnancy is contraindicated.

In this study, researchers conducted a systematic literature review of 39 studies that identified women who had been pregnant after a breast cancer diagnosis. They evaluated the studies to assess the frequency of post-treatment pregnancies in these patients, fetal and obstetrical outcomes, disease-free survival, and overall survival. In all, they gathered data on 114,573 breast cancer patients.

Compared with women from the general population, patients who had gone through breast cancer had a 60 percent reduced chance of having a pregnancy. Lambertini explained that this study did not specifically capture the overall number of women who tried to conceive, so it is possible that some women did not try to have a pregnancy after treatment completion. Some studies included in the analysis did report such data, and Lambertini estimated that more than half of young women who tried to conceive did so. Also, some women who did not intend to conceive did get pregnant. Lambertini said this finding suggests that cancer patients of child-bearing age should also receive accurate information about contraception.

The study showed that compared with women in the general population, breast cancer survivors had 50 percent higher risk of having a baby with low birth weight; 16 percent higher risk of having a baby that was small for gestational age; 45 percent higher risk of preterm labor; and 14 percent higher risk of having a caesarean section.

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However, importantly, there was no significant increased risk of congenital defects or other pregnancy or delivery complications. The increased risk of low birth weight and small gestational age appeared to be restricted mainly to women who had received prior chemotherapy.

Pregnancy after breast cancer was not associated with poor patient outcomes. Compared with breast cancer patients who did not have a subsequent pregnancy, those who did get pregnant had a 44 percent reduced risk of death and a 27 percent reduced risk of disease recurrence. When controlling for the “healthy mother effect,” which suggests that women who feel well and have good prognoses are the most likely to try to conceive, women who got pregnant had a 48 percent reduced risk of death and a 26 percent reduced risk of disease recurrence.

The analysis further indicated that pregnancy appeared safe across *BRCA* status, nodal status, previous chemotherapy exposure, pregnancy interval (the amount of time between breast cancer diagnosis and pregnancy), and pregnancy outcomes.

Overall, Lambertini said, the analysis showed that pregnancy after breast cancer was confirmed to be safe without negatively affecting patients’ prognosis. “These findings are of paramount importance to raise awareness of the need for a deeper consideration of patients’ pregnancy desire as a crucial component of their survivorship care plan. This starts with offering oncofertility counseling to all newly diagnosed young breast cancer patients,” he said.

The study’s first author, Eva Blondeaux, MD, a medical fellow in oncology at IRCCS Policlinico San Martino Hospital, said the higher risk of delivery and fetal complications indicates that physicians should more closely monitor pregnant breast cancer survivors compared with pregnant healthy women from the general population. However, the overall findings and the lack of negative effects on survival indicate that many women can successfully go through pregnancy after breast cancer.

The authors said the study’s main limitation was that it did not allow for examination of individual patient data, and most of the included studies were retrospective analyses.

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Abstract

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Chances of pregnancy after breast cancer, reproductive and disease outcomes: A systematic review and meta-analysis

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Background: Pregnancy-related issues are a priority for young breast cancer (BC) patients. Increasing evidence has shown that pregnancy after prior BC diagnosis is feasible. Nevertheless, few BC survivors conceive following anticancer treatment completion and many physicians remain concerned about the potentially detrimental effects of pregnancy after BC in terms of fetal/obstetrical outcomes and maternal prognosis. This systematic review and meta-analysis aims at providing updated and solid evidence on these important issues.

Methods: A systematic literature review up to January 31, 2020 with no language restriction was conducted to identify studies including patients with a pregnancy after prior BC diagnosis. Chances of pregnancy after BC, fetal and obstetrical outcomes, disease-free survival (DFS) and overall survival (OS) were assessed. Pooled relative risks (RRs), hazard ratios (HRs) or odds ratio (ORs) with 95% confidence intervals (CI) were calculated using the random effects models. The study is registered with the PROSPERO registration number CRD42020158324.

Results: Overall, 39 studies were included. Out of the 8,265,713 young women included in these studies, 8,093,401 were from the general population, 57,739 had cancers other than BC, 114,573 had BC. Among the 114,573 BC patients, 7,505 had a pregnancy after BC diagnosis and 107,068 did not.

Compared to women from the general population, BC patients had 60% reduced chances of having a pregnancy following anticancer treatment completion (RR 0.40, 95% CI 0.32-0.49). Among other cancer patients, only women with prior cervical cancer had lower pregnancy rates (RR 0.33, 95% CI 0.31-0.35) than BC patients.

Compared to the general population, BC survivors had significantly increased risks of low birth weight (OR 1.50, 95% CI 1.31-1.73), small for gestational age (OR 1.16, 95% CI 1.01-1.33), preterm delivery (OR 1.45, 95% CI 1.11-1.88) and caesarean section (OR 1.14, 95% CI 1.04-1.25). No significant increased risk of congenital abnormalities (OR 1.63, 95% CI 0.89-2.98) or other pregnancy or delivery complications (spontaneous or induced abortion, gestosis, antepartum or postpartum hemorrhage) was observed. Prior chemotherapy exposure or short pregnancy interval (defined as <2 or <5 years after BC diagnosis) were not associated with additional increased risk of complications.

Pregnancy after BC was not associated with a negative impact on patients' outcomes. Compared to BC patients without subsequent pregnancy, those with pregnancy after BC had better OS (RR 0.56, 95% CI 0.46-0.67) and DFS (RR 0.73, 95% CI 0.56-0.94). Similar results were observed in the studies correcting for the potential "healthy mother effect" (OS: HR 0.52, 95% CI 0.42-0.65; DFS: HR 0.74, 95% CI 0.58-0.96). No detrimental prognostic effect of pregnancy after BC was observed in patients with hormone-receptor positive disease (DFS: HR 1.10, 95% CI 0.73-1.66), while better outcomes were observed for those with hormone-receptor negative disease (DFS: HR 0.72, 95% CI 0.55-0.95). The safety of pregnancy after BC was observed irrespective of *BRCA* status, nodal status, previous chemotherapy exposure, pregnancy interval and pregnancy outcomes.

Conclusions: This large meta-analysis provides solid evidence on the safety of pregnancy after prior BC diagnosis. The increased risk of fetal and obstetrical complications (but not of congenital abnormalities) calls for ensuring a closer monitoring of these pregnancies. The significantly reduced chances of conceiving as compared to the general population and other cancer patients should raise further awareness on the need to improve the oncofertility counseling of young BC patients wishing to complete their family planning following anticancer treatment completion.

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