

Association between the type of child delivery and occurrence of breast cancer

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Abstract: To explore the risk of breast cancer in relation to the type of child delivery we tested whether a type of delivery carries a high risk of breast cancer. This factor doesn't study earlier as we know. 1000 healthy women who were sent to one radiology center for general check-up or for initiating or continuing hormone-replacement therapy were selected. They were given a questionnaire about the type of prior child deliveries and also examined by an experienced physician to look for any signs of breast cancer. Screening mammography was performed in two standard views (craniocaudal and oblique mediolateral view). Among the mothers 19.39% had vaginal delivery and 80.61% had delivered by cesarean section. Among the women who had vagina delivery 93.6% had normal mammogram and 1.3% of them had malignancy and 3.2% had a benign breast nodule. P value for the association between the type of delivery and breast cancer was 0.617, which doesn't have any statistical significance. In this study, we concluded that the type of child delivery doesn't influence the risk of breast cancer in mothers.

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1. Introduction

Breast cancer is a type of cancer originating from breast tissue, most commonly from the inner lining of milk ducts or the lobules that supply the ducts with milk (Sariego, 2010). Worldwide, breast cancer comprises 22.9% of all cancers (excluding non-melanoma skin cancers) in women (Tomatis, 2002). In 2008, breast cancer caused 458,503 deaths worldwide (13.7% of cancer deaths in women) (Tomatis, 2002). Breast cancer is also the most common cancer in Iranian women and vast majority of patients in Iran are diagnosed in advanced stages (Harirchi, 2011; Ebrahimi, 2002). Iranian breast cancer patients are younger than the patients in western countries (Yavari, 2008). Various risk factors have been described for development of breast cancer. The primary risk factors for breast cancer are female sex and older age (Reeder and Vogel, 2008). Other potential risk factors include: lack of childbearing or breastfeeding (Collaborative Group on Hormonal Factors in Breast Cancer, 2002), higher hormone levels, diet and obesity (Yager, 2006; Santoro, 2009).

Reproductive factors are related with development of breast cancer in some studies. Nulliparity and late age at first child delivery are linked to increased rate of breast cancer (Kelsey, 1993). Late age at menarche and prolonged lifelong

lactation are reported as factors, which lower the risk of breast cancer (Jordan, 2010; Hsieh, 1990).

Multiple child births and preeclampsia may moderately reduce the risk of breast cancer (Nechuta, 2010). Some studies propose the raised levels of endogenous sex hormones may play a role in mechanisms of reproductive risk factors for breast cancer (Hankinson, 2005-2006; Key, 2002). Regarding to these facts we conducted a study in order to evaluate the association between the type of child delivery and risk of developing breast cancer, a factor which isn't studied earlier as we know?

2. Material and Methods

This is cross sectional study. 1000 healthy women who were sent to one radiology center for general check-up or for initiating or continuing hormone-replacement therapy were selected. They were given a questionnaire about the type of prior child deliveries and also examined by an experienced physician to look for any signs of breast cancer. Screening mammography was performed in two standard views (craniocaudal and oblique mediolateral view). The mammograms were read by a radiologist and any kind of abnormal findings were recorded. If there was any need, the patients were referred for further evaluation or to a surgeon for a biopsy. The association between the type of child delivery and breast cancer occurrences was analyzed.

3. Results

1000 women between ages 40-77 years old and without any clinical symptoms were evaluated. The frequency of age groups in the sample is shown table 1.

Among the mothers 19.39% had vaginal delivery and 80.61% had delivered by cesarean section. Among the women who had vagina delivery 93.6% had normal mammogram and 1.3% of them had malignancy and 3.2% had a benign breast nodule. P value for the association between the type of delivery and breast cancer was 0.617, which doesn't have any statistical significance.

Table 1. The frequency of age groups of samples

Age Range in year	Percentage
40-49	43.6%
50-59	41.8%
60-69	12.8%
>70	1.8%

4. Discussions

We conducted a study in order to evaluate the association between the type of child delivery and risk of developing breast cancer, a factor which isn't studied earlier as we know. 1000 healthy women who were sent to one radiology center for general check-up or for initiating or continuing hormone-replacement therapy were selected. They were given a questionnaire about the type of prior child deliveries and also examined by an experienced physician to look for any signs of breast cancer. Screening mammography was performed in two standard views (craniocaudal and oblique mediolateral view). Among the mothers 19.39% had vaginal delivery and 80.61% had delivered by cesarean section. Among the women who had vagina delivery 93.6% had normal mammogram and 1.3% of them had malignancy and 3.2% had a benign breast nodule. P value for the association between the type of delivery and breast cancer was 0.617, which doesn't have any statistical significance. In this study, we concluded that the type of child delivery doesn't influence the risk of breast cancer in mothers.

Melbye et al in one large cohort study of almost half a million porous women in 1999 found reassurance evidence that a preterm delivery of 32+ weeks' gestation does not significantly increase the risk of premenopausal breast cancer. Overall, 84% of all preterm deliveries are of 32+ weeks' gestation. Only for the small group of preterm deliveries of less than 32 weeks' gestation was there a twofold increased risk of breast cancer when comparing with a full term delivery. This elevated relative risk was

obtained in an analysis in which a woman's person-years at risk were calculated continuously according to the gestational age of the most recent birth (Melbye, 1999).

Isilay Kalan in one study that consisted of 985 consecutive breast cancer patients in 2009 reported that the tumors in breast cancer patients who had a history of cesarean section tend to have more frequent extra capsular extension and lymph vascular invasion. The results of the present study may indicate that breast cancer occurring in patients who had previously undergone cesarean section delivery have a particularly aggressive biological behavior leading a somewhat unfavorable prognosis. Because the maternal serum (Kalan, 2010).

Conclusion:

In this survey, by using statistical analysis, it seems there isn't any statistically significant association between the development of breast cancer and type of delivery ($P=0.617$) in our study on Iranian women.

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