Case report
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# Pregnancy and delivery after the breast carcinoma

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*The planned pregnancy in patients treated for breast cancer was earlier inconceivable for oncologists and gynecologists. Our study presented a case of pregnancy after the patient had been operated and irradiated for breast cancer.*

**KEY WORDS:** *Brest Neoplasms; Carcinoma Medullary; Pregnancy; Delivery*

## INTRODUCTION

Breast cancer and pregnancy are events that have an enormous impact on the lives of young women. When these events are associated they become a highly emotive issue with possible devastating consequences (1).

Breast cancer is the most frequently present tumor in the female population. In regard to the trend of increasing morbidity and high mortality rate as well as median of the disease at the age of 45 and below 45 years, this malignancy proved to be a serious health problem.

As far as the patients with this problem are in 50% in generative period of life, the patients with promising prognostic parameters and disease-free intervals of more than 5 years (particularly in case of negative hormone receptors) who wish to get pregnant could be allowed pregnancy with special precautions.

## CASE REPORT

Twenty-five years old woman was admitted at the Institute of Oncology in Sremska Kamenica with palpable and movable tumefaction in the left breast. Physical examination confirmed the presence of tumefaction, which was located in upper lateral quadrant of the left breast towards the axilla (Spenser's lobe). The tumefaction was 1 cm in size, movable, well defined and of hard consistency. Laboratory findings, chest X ray, ECG and heart condition were in normal ranges. The patient was operated on April 23, 1996. We performed biopsy extempore followed by quadrantectomy of the left breast with evacuation of axilla sec. Veronesi (because the extempore analysis confirmed carcinoma of the left breast). Primary tumor (size, 0.6 x 0.6 cm) was completely removed.

Histopathologic analysis confirmed invasive breast cancer with dominant medullary component. Estrogen and progesterone hormone receptors were both negative. After operation the patient received irradiation therapy (50 Gy in 20 fractions and boost dose in tumor bed). The patient came for a regular control every third month for the first 3 years. Afterwards, she was checked up every 6 months according to the standard protocol: ultrasound of the liver every 6 months, scintigraphy of the skeleton once a year, and chest X ray. MRI of both breasts was preformed before the planned pregnancy (Figure 1).

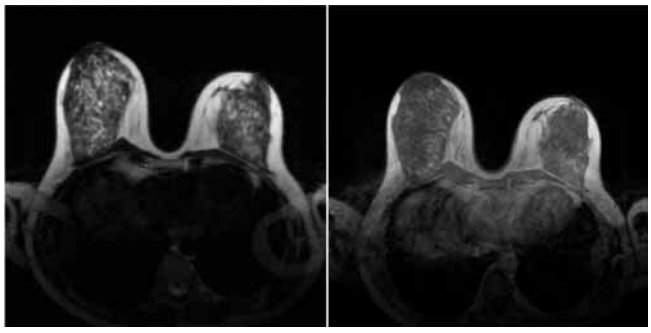

**Figure 1.** MRI of both breast after operation

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At her personal insistence and responsibility, the patient got pregnant spontaneously at the age of 31 (5 years after the operation of primary breast carcinoma). The last menstruation was on December 31, 2001. During her pregnancy she came for regular controls. Ultrasonographic examination was performed 3 times: at 12, 20 and 28 gestational weeks, and oncology examination in the 1st and 3rd trimester of pregnancy (ultrasound of the liver, laboratory analyses and CA l5.3). There was no need for early amniocentesis upon the consultation with the geneticist, but in the view of eventual consequences of the previous therapy, the patient underwent early amniocentesis at gestational week 16, and the following finding was obtained: 46XX, normal karyotype. The pregnancy was regular throughout its course (Figure 2).

**Figure 2.** Pregnant patient after breast operation

The parturition occurred on October 8, 2002 at 5a.m. It was a vaginal delivery of the newborn in occipital position with episiotomy. She gave a birth to a live female newborn (Apgar score 9/10). The complete placenta was spontaneously separated and delivered. Manual revision of the delivery canal was performed and the episiotomy was sutured.

Postpartum period was regular. Involution of the uterus was normal as well as serous-blood lochia. The episiotomy wound healed per primam. Control laboratory findings were normal. Lactation was interrupted by bromocriptine agents. Control gynecologic examination in week 6 after delivery was normal. The control oncology examination was regular.

## DISCUSSION

After the analysis of literature data we realized that there has been a very small number of published reports on the pregnancy following the treated breast cancer. Many more references could be found on the breast cancer associated with pregnancy.

As far as 10 years ago there was an attitude that the women treated for breast cancer should not get pregnant and deliver. The reports on pregnancy and delivery in the women with treated breast cancer have been extremely rare. The opinions on the post-breast-cancer pregnancy have changed in concern to the fact that the incidence of breast cancer has been increased in younger age groups, particularly in the women (concern of this paper) with no previous deliveries, and these with good prognostic parameters, long disease-free interval in whom the pregnancy could have been safely planned. In a prospective study of 694,657 parous women in Norway, 5474 developed breast cancer after their first birth (2). It is generally accepted that early first childbirth is associated with reduced risk of developing breast cancer. In contrast, there is no evidence that pregnancy after breast cancer treatment has a negative influence on the prognosis (3). In the medical literature there are no randomized clinical trials helping in making decision in this setting. Significant experience already exists in some institutions and can guide management in these difficult cases (4).

In our patient, the BRCA has not been estimated for technical impossibility. It was planned to perform regular controls of the mother and future female child, and the pregnant woman had been introduced with the possible risk of the occurrence of the breast cancer in the female child during her generative period. The parents agreed to the risk. Prenatal testing for BRCA mutation should only be done after extensive counseling of the parents during which not only the medical genetic aspects but also the ethical aspect of prenatal BRCA testing are discussed (5). The decision for prenatal BRCA testing and selective termination of pregnancy in case of a BRCA mutation in the fetus cannot immediately be judged and is unacceptable from an ethical point of view. Prenatal BRCA testing is morally defensible only in case of a female fetus. If parents have the intention to terminate the pregnancy when fetus is a carrier, the final decision is in any case up to the parents.

The problem of a pregnancy after treatment for breast cancer is analyzed and this aspect is an emerging issue in clinical oncology. The decision should evaluate for each single patient, taking

into account the prognosis of the patient and her desire of pregnancy (6). Furthermore it is likely that willingness of pregnancy after breast cancer contains, besides classic constituents of appeals of motherhood, a specific meaning for the recovery of both health and femininity (7).

In conclusion, our study presented a case of normal pregnancy and delivery after the patient had been operated and irradiated for breast cancer.

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