



## Pregnancy following breast carcinoma

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### Introduction

The survival rates for the patients suffering from breast cancer at young age have improved. This could be attributed to early diagnosis and better treatment options available. The late effects of treatment in breast cancer have gained recent ubiquitous interest <sup>1</sup>.

Obstetricians come across women who are pregnant or seeking pregnancy after treatment for breast cancer. The question is whether it is advisable for women to get pregnant after treatment for breast cancer. If women have infertility whether it is safe to superovulate such women. If pregnant whether to breast-feed or not. Women planning pregnancy after treatment for breast cancer need joint consultation with obstetrician, breast surgeon and clinical oncologist.

### Case report

Mrs. JJ, 27 years, 59 kg. presented with primary subfertility. She had stage T3N0M0 Grade III undifferentiated infiltrative duct carcinoma that was diagnosed by excision biopsy in October 1997. She was managed by sector mastectomy with axillary clearance followed by 6 cycles of CMF (Cyclophosphamide, Methotrexate, 5-Fluorouracil) chemotherapy and external radiotherapy by 6 MvLA. The axillary nodes were negative and tumor was ER/PR negative. Postoperative period was uneventful. Contraception was advised for 2 years. Infertility workup was done. Serum FSH and LH levels were normal. Male factor infertility was ruled

out. Laparoscopy and hysteroscopy showed bicornuate uterus with left rudimentary horn. Induction of ovulation was done by letrozol. IUI was performed after administration of hCG. She conceived in the 5<sup>th</sup> cycle of stimulation (last menstrual period on 2nd April, 2003) and IUI. Antenatal period was uneventful except for decreased liquor at 34 weeks. On 18th December 2003 she delivered by lower segment cesarean section because of non-reactive cardiotocography. A live, 3 kg female child was born. Both the ovaries appeared normal without any cyst. In postnatal period she lactated normally from unaffected breast. There was no lactation from the breast, which had cancer. She was discharged on 21<sup>st</sup> December 2003.

She was being followed up regularly for 6 months at which time she was still breast feeding the baby, and had no recurrence on mammography, nor any secondaries on CT scan and bone scan. The baby was being followed up by the pediatrician and was growing normally.

### Discussion

Premature ovarian failure is a common long-term consequence of chemotherapy <sup>1,2</sup> and radiotherapy depending upon the woman's age. Alkylating agents such as cyclophosphamide cause amenorrhea through direct ovarian suppression. The average incidence of chemotherapy related amenorrhea with CMF is 68% <sup>3</sup>. In a study approximately 50% of women less than 35 years old had reduced ovarian function after a full course of adjuvant chemotherapy <sup>4</sup>.

Overall, the prognosis for women who conceived after early stage cancer is good with evidence of a healthy mother <sup>5,6</sup>. To date, there is no evidence that any of the cytotoxic drugs used prior to a pregnancy produce adverse effect on fetal development or the neonate. It has been suggested that pregnancy after treatment for breast cancer has an increased chance of spontaneous loss of pregnancy <sup>5</sup>.

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Radiation therapy results in diffuse tissue damage, including ductal shrinkage and lobular atrophy<sup>1,2</sup>. The treated breast generally does not increase in size as pregnancy grows. Prior breast surgery may disrupt the innervations of the nipple-areola complex and disrupt terminal ducts<sup>10</sup>. Although breast feeding from the contra lateral breast is feasible, many women have been advised not to attempt subsequent breast-feeding due to concern about possible mastitis. In a survey of 52 pregnancies after radiation therapy, 18 (35%) reported lactation from the treated breast, and 24.5% successfully breast fed<sup>11,12</sup>. It is important that women with prior breast surgery or radiation therapy be identified prenatally as being at potential risk during lactation. Early intervention includes assessment of lactation potential and a carefully individualized plan of care to allow breast-feeding while ensuring that the infant's nutritional needs are met<sup>10</sup>. There is no data to suggest that breast feeding while ensuring that the infant's nutritional needs are met<sup>10</sup>. There is no data to suggest that breast feeding after treatment for breast cancer is any way injurious to the infant<sup>12,13</sup>.

There is no current information about the influence of ovarian stimulation on the risk of recurrence in women who have completed treatment for breast cancer. Several authors have recommended that pregnancy should be delayed for at least two years after breast cancer treatment<sup>7</sup>. Avertte et al<sup>8</sup> have recommended that decisions about future conception should be based on the prognosis for the individual woman. Fertility is possible after long-term exposure to chemotherapy as reported in our case.

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