Gestational breast cancer: a case report of two cases

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Abstract

The term gestational breast cancer is defined as breast cancer diagnosed during pregnancy and up to 1 year postpartum. Overall incidence rate is 0.7 – 3.8%. These lesions are generally missed on radiology as well as cytology due to physiological and functional changes in mammary gland or misdiagnosed as hyper proliferative change of breast. These may present later in advanced stage of malignancy with axillary lymph node metastasis in 47 to 89 % of cases. Core needle biopsy is a gold standard for it’s diagnosis. We hereby report two cases of gestational breast cancer with lymph node metastasis.

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**Introduction**

Although breast cancer is a high profile disease, its association with pregnancy is less often reported. Where as leukemia and lymphomas are most common in pregnant females breast carcinomas are rare.\(^1\) Incidence of breast cancer increases with advancing age.\(^2\).

The term gestational breast (GBC) cancer is defined as breast cancer diagnosed during pregnancy and up to 1 year postpartum.\(^1\) GBC is likely to become more common as more and more women delay pregnancy when chances of developing breast cancer begins to rise. Overall incidence rate is 0.7-3.8 % of all diagnosed cases of breast cancer.\(^1\) On radiology and cytology these lesions are generally missed, underdiagnosed or misinterpreted due to physiological and functional changes in mammary gland or misdiagnosed as hyper proliferative change of breast and present later with advanced stage of malignancy.\(^3\) Risk of advanced disease is 2.5 % higher in PABC as compared to non-pregnant counterparts.\(^4\) Core needle biopsy is gold standard for diagnosis with predominant histology type being infiltrating ductal carcinoma.\(^5\)

The main concern is the decision of continuation vs termination of pregnancy if diagnosed in second trimester and early diagnosis is important. Decision, however should be left to patient’s will and therapeutic necessities. Treatment of choice is surgery as radiation should be avoided because of its toxic effects on fetus and chemotherapy is possible only after first trimester.

**Case Report**

**Case I:** 34 year lactating female resident of Manipur G\(_1\)P\(_1\)A\(_0\) with history of delivery 10 months earlier, presented with bilateral breast lumps with for 6 months (fig 1).

**Case II:** 37 year lactating female resident of Bihar G\(_2\)P\(_2\)A\(_0\) with history of delivery 6 months earlier presented with palpable lump in right breast for 3 months. (fig 2)

On cytology both cases showed characteristic features of ductal carcinoma NOS type with only an occasional benign cell showing cytoplasmic vacuolization(secretory changes). (Fig.1D &2C.)

![Fig 1](image)

Fig 1 A) clinical image showing bilateral breast masses with ulceration on right sided; B) gross showing tumour involving overlying nipple areola and overlying skin; C) cytology smear showing cluster of malignant cells (giemsa, 40X ); D & E) infiltrating ductal carcinoma NOS type (H&E, 40X ); F) microphotograph showing strong Her-2 membranous positivity (IHC,40X )
On histological examination in Case 1 the entire right breast right was replaced by tumour with ulceration of overlying skin with right axillary lymph node metastasis. And left breast showed tiny focus of tumour along with lactational hyperplasia with (T4N1MX). (Fig 1 B1&B2)

Case 2 showed tumour in central and lateral quadrant measuring 4x4 cm with axillary lymph node metastasis.(T2N1MX). On microscopy both cases were of infiltrating ductal carcinoma NOS type. (Fig 2.B)

Discussion
The recent updates show that breast cancer is second most common malignancy diagnosed during pregnancy after cervical cancer. [6] A high index of suspicion is therefore warranted for breast lump in pregnant female. There is disagreement in worldwide literature concerning the influence of pregnancy on incidence and course of breast cancer.

GBC is age related and women who have their first pregnancy after 30 years have two to three times higher risk of developing breast cancer than women who have their first pregnancy before age of 20. [2] Mean age at diagnosis is 32-34 years. [2] As more and more women delay pregnancy there is increase in it’s incidence. Incidentally the first case was from Manipur where it is common practice to have delayed child bearing.

Case I presented with bilateral masses which are reported in 4.6 % cases.[7] Most women present with painless mass in breast and sometimes with milk rejection sign. [2] In both these cases milk rejection sign was absent.

Detection of any breast lump during pregnancy or lactation requires immediate diagnostic procedure and treatment. As the breast size and parenchymal density increases during pregnancy and lactation secondary to hyper estrogenic proliferative changes the corresponding efficacy of mammography in detecting early breast cancer in pregnant women decreases. It is important to stress on regular self-examination in pregnant females.

Pregnancy related hyperplastic changes with atypia may give false positive FNA results. [2] However in case I neoplastic epithelial cells predominated and cells showing lactational changes were very few.

GBC are generally reported as negative for hormone receptors with higher frequency of lymph node positivity 47 to 89 %. [8] Case I was ER/PR negative with Her 2 strongly positive (fig 1.D) but in case II Her 2 was weakly positive. (fig 2.E) Both cases had axillary lymph node metastasis. However, prognosis mainly depends on the stage of the disease at the time of diagnosis and criteria are same for lactating women as for non-gestational
women. Both patient were in remission at last follow up one year later.

**Conclusion**
Both the cases highlight the importance of timely and early detection of breast cancer during routine antenatal and postpartum period, as well as to highlight the relevance of history taking and careful evaluation of the cytologic material.

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**References**