

Breast Cancer in Pregnancy

Case Series in a UK Tertiary Hospital Over a 6-Month Period

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Background

Breast cancer is the most common malignancy among women in the United Kingdom, comprising nearly 30% of all female cancers. Breast Cancer Associated with Pregnancy (BCAP), also known as Pregnancy-Associated Breast Cancer (PABC), is defined as breast cancer diagnosed during pregnancy or within 12 months postpartum. However, some literature expands this definition to include diagnoses up to five years after delivery. The diagnosis and management of BCAP present complex clinical challenges, as care must balance maternal prognosis with fetal safety.

Objective

This case series highlights three instances of breast cancer diagnosed during pregnancy, managed within a tertiary hospital in the UK over a six-month period. It aims to explore the diagnostic modalities used, multidisciplinary management strategies, and individualized treatment planning in accordance with gestational age and tumour characteristics.

Imaging and Diagnosis

Diagnosis of BCAP is complicated by physiological breast changes in pregnancy and concerns regarding fetal radiation exposure. Ultrasound (US) is the first-line imaging modality, being safe and effective. Mammography may be utilized with abdominal shielding to minimize fetal radiation exposure. Magnetic Resonance Imaging (MRI) is reserved for specific indications due to its superior sensitivity and absence of ionizing radiation.

Case Summaries

Patient 1

A 29-year-old multiparous woman diagnosed at 19 weeks with Grade 3 HER2-positive invasive ductal carcinoma. Initial wide local excision and axillary sampling revealed extensive residual disease, requiring repeat surgery and neoadjuvant chemotherapy. Delivery was induced at 37+5 weeks to allow for postnatal mastectomy and further treatment.

Patient 2

A 40-year-old primigravida presented at 24 weeks with a triple-negative invasive ductal carcinoma. Following MDT consensus, she began primary EC chemotherapy during pregnancy. A planned C-section at 37+5 weeks allowed for postnatal addition of pembrolizumab, as its safety profile during pregnancy remains uncertain.

Patient 3

A 32-year-old multiparous woman diagnosed at 21 weeks with ER-positive, HER2-negative Grade 1 carcinoma. Surgical management was conducted at 29+5 weeks, with planned postpartum radiotherapy.

Management Approach

Management is tailored to cancer stage, histopathology, and gestational age. Surgery is safe in all trimesters, although breast reconstruction is typically delayed until after delivery. Chemotherapy is contraindicated in the first trimester but considered safe from the second trimester onwards, with no strong evidence linking it to adverse fetal outcomes. Radiotherapy is generally deferred until after delivery due to teratogenic risk, unless urgently indicated. Targeted therapies like trastuzumab and endocrine therapies such as tamoxifen are contraindicated during pregnancy.

Outcome and Support

All patients received multidisciplinary care tailored to cancer subtype, gestation, and maternal preferences. Pregnancy outcomes were favorable with no reported fetal compromise. All patients were signposted to Mummy’s Star, a UK-based charity providing psychosocial and practical support to women diagnosed with cancer during pregnancy or within a year postpartum.

Conclusion

BCAP management requires a collaborative, multidisciplinary approach to optimize maternal and fetal outcomes. Early diagnosis, individualized treatment planning, and comprehensive psychosocial support are crucial. Despite the complexity, favorable outcomes are achievable with timely intervention and adherence to evolving clinical guidelines.

References

- ✓RCOG Green Top Guideline number 12. Pregnancy and breast cancer. 2011
- ✓Breast cancer in pregnancy: a comprehensive review of diagnosis, management, and outcomes

