

Breast Cancer in Pregnancy

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Pregnancy Associated Breast Cancer (PABC)

Maternal Disease



Surgery
Medical Oncology
Radiation Oncology
Radiology

Fetal Well-being



Ob/Gyn
Perinatology
Neonatology

Gynecologic Oncology

Physiologic Changes

- Estrogens promotes proliferation
- Breast engorgement
- Areola darkens
- Montgomery glands enlarge
- Blood vessels dilate and become visible
- Colostrum starts from 16 weeks

Epidemiology

- 15-35 / 100 000 pregnancy
 - Age at first pregnancy increases
 - 16.0/100 000 in 1963
 - 34.7/100 000 in 2002
- } Sweden
- Early age pregnancy does not prevent developing breast cancer in BRCA1 carriers

Diagnosis

- History
 - Painless lump
- Physical examination
 - Difficult due to engorgement
- Ultrasonography
- Mammography
- Core needle biopsy (80% benign)
- Fine needle aspiration cytology in axilla

Imaging

- Ultrasonography
- Mammografi
- MR with gadolinium
- MR without gadolinium
- Chest x-ray
- CT
- PET/CT

Pathology

- Invasive ductal carcinoma ↑
- Grade 3 ↑
- Estrogen receptor + ↓
- Her 2 ↑

Staging

- Mammography
- Thorax CT or chest x-ray
- Liver ultrasonography
- Skeletal MR without contrast
- Sentinel node biopsy
 - ^{99m}Techetium
 - Blue dye

Treatment

Oncologic Status

- Stage
- Axillary Nodal Status
- Tumor characteristics
 - Size
 - ER
 - Her 2
 - Grade
 - Histology

Fetal Status

- Gestational age
- How far the delivery
- Fetal well-being

Treatment

- Surgery
 - Mastectomy
 - Breast conserving
- Surgery + radiation
- Surgery + radiation + chemotherapy
- Neoadjuvant chemotherapy + surgery

Treatment

- Mastectomy or breast conserving surgery
 - Need of radiation
- Immediate plastic surgery
- Autologous plastic surgery
- Radiation
- Chemotherapy
 - Doxorubicin
 - Cyclophosphamide
 - Taxanes
 - 5 FU
 - Trastuzumab
 - Tamoxifen

1. Trimester

- Discuss pregnancy termination
- Mastectomy + axillary staging
- Chemotherapy after 1 trimester, stop at 35 weeks
- Adjuvant radiation postpartum
- Endocrine therapy postpartum

2. Trimester

- Mastectomy or breast conserving surgery
- Axillary staging
- Adjuvant chemotherapy
- Radiation postpartum
- Endocrine therapy postpartum

OR

- Neoadjuvant chemotherapy
- Mastectomy or breast conserving surgery
- Axillary staging
- Radiation postpartum
- Endocrine therapy postpartum

3. Trimester

- Mastectomy or breast conserving surgery
- Axillary staging
- Chemotherapy
- Adjuvant radiation postpartum
- Endocrine therapy postpartum

Delivery

All fetuses should be delivered at term