The Breast Cancer Treatment Journey:
What happens after a breast cancer diagnosis?

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Disclosure

- None
Objectives

- The breast cancer treatment journey: options, decisions and timeline
- Should Breast MRI be part of preoperative workup?
- Interpret the pathology report: translation from medical lingo to English
Is it 
CANCER 

OR JUST 
CANCER ITIS?

How I wish I knew for sure

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KRM
The Breast Cancer Treatment Team

Primary Care Providers

Oncologists: Medical oncologists Radiation oncologists

Breast oncologic surgeons

Radiologists Pathologists

Reconstructive surgeons
Role of the breast oncologic surgeon

- Support & guide patient through their journey for breast cancer treatment
- Preoperative optimization and individualize surgical options
  - Smoking cessation
  - Diabetic glycemic control
  - Lymphedema prevention with early referral lymphedema PT
  - Assess risk for genetic predisposition
  - Individualize treatment according to oncology, size, location of cancer and patient’s preference
  - Size of tumor relative to size of breast volume remains a critical factor in determining BCT with optimal cosmetic result
- Clarify patient’s goal & realistic expectation
- Provide informed consent (loss of nipple function, nipple necrosis, skin flap necrosis, hematoma etc.)
- Working with other disciplines via referrals or as a member of Breast Leadership Team at a Breast Center
Interdisciplinary Comprehensive Breast Center

Primary Care Providers

Oncologists:
- Medical oncologists
- Radiation oncologists

Breast oncologic surgeons

Radiologists

Outline treatment plan
- Timeline
- Breast pathology
- Treatment options
- Referrals
- Resources

MRI, US
- Needle localization
- Sentinel lymph node mapping
- Resources

Neoadjuvant therapy
Metastatic workup
Genetic testing
Adjuvant therapy
Research/clinical trials
Oncology follow-ups
Resources
The Breast Cancer Treatment Journey: the first visit

**Pre treatment:**

What your patient should expect for the next few months?

Review pathology report with your patient

Addition studies needed (MRI)? It all depends on the pathology and clinical picture. Following MRI, a 2\textsuperscript{nd} look US or biopsies may be needed

Need for genetic testing? Age of patient and family history

Miscellaneous: Resources, Insurance, BCCP

**Treatment:**

Local therapy

Systemic therapy

Hormone therapy

**Post treatment:**

What else to expect?
Breast Carcinogenesis
(Is it my fault that I have cancer?)
The diagnosis: how bad is my cancer?

FINAL DIAGNOSIS:

Right breast at 8 o'clock, ultrasound guided biopsy:
Histologic type: Invasive ductal carcinoma
Grade: 2
Size: At least 0.9 cm, multiple cores are involved
Lymphovascular invasion: Absent
DCIS: Absent
Microcalcifications: Absent

Breast Panel:
Panel of breast cancer predictive markers

<table>
<thead>
<tr>
<th>Predictive marker</th>
<th>Clone</th>
<th>Patient result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estrogen receptors</td>
<td>SP1</td>
<td>3+ positive</td>
</tr>
<tr>
<td>Progesterone receptors</td>
<td>PGR636</td>
<td>3+ positive</td>
</tr>
<tr>
<td>HER2/neu</td>
<td>Dako polyclonal</td>
<td>0+ negative</td>
</tr>
<tr>
<td>Ki-67</td>
<td>MIB-1</td>
<td>Low (6%)</td>
</tr>
</tbody>
</table>

COMMENT:

An E cadherin immunostain is positive, confirming ductal carcinoma.

MICROSCOPIC EXAMINATION:

Performed.

CLINICAL HISTORY:
The diagnosis: how big is it?
What about breast MRI?
Routine use of MRI is not recommended in patient with breast cancer but may be indicated in the following:

- Genetic mutation
- Ductal Carcinoma In Situ associated with carcinoma
- Multifocality and multicentricity
- Invasive lobular carcinoma
- Conflicting data from other imaging modalities (malignant axillary LN with unknown primary breast cancer)
- Breast implants
- Monitoring response to systemic therapy
- Recurrent breast cancer
- Radiographically dense breast
- Accessing pectoralis muscle involvement
Breast Patient Questionnaire

- Bone pain, neurologic symptom, breast problem, nipple discharge, trauma
- Family or personal history of breast, ovarian, pancreatic, colon or prostate cancer
- Any previous breast biopsy

Past Gynecological History
- Age of menarche
- LMP/age of menopause
- Gravida/Para:
- Length of time breastfeeding
- Ages/gender of children
- OCP/HRT use
- Last PAP

CLINICAL STAGE
- Reconstructive surgery
Genetic Risk Assessment

Kuerer’s Breast Surgical Oncology

Figure 8-1 Percentage of breast cancer patients with a family history of breast cancer.

Figure 8-2 Percentage of breast cancer cases with a genetic mutation.

Table 8-1 BRCA1 Mutations and Associated Cancer Risks

<table>
<thead>
<tr>
<th>Type of Cancer</th>
<th>Reported Risk by Age 70</th>
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<tbody>
<tr>
<td>Breast—initial</td>
<td>57-65%</td>
</tr>
<tr>
<td>Breast—second</td>
<td>3% per year</td>
</tr>
<tr>
<td>Ovarian</td>
<td>40%</td>
</tr>
<tr>
<td>Prostate</td>
<td>None to 2- to 3-fold increase</td>
</tr>
<tr>
<td>Male breast cancer</td>
<td>1%</td>
</tr>
<tr>
<td>Colon</td>
<td>Slight increase</td>
</tr>
<tr>
<td>Pancreatic cancer</td>
<td>1-4%</td>
</tr>
</tbody>
</table>

Table 8-2 BRCA2 Mutations and Associated Cancer Risks

<table>
<thead>
<tr>
<th>Type of Cancer</th>
<th>Reported Risk by Age 70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast—initial</td>
<td>45-49%</td>
</tr>
<tr>
<td>Breast—second</td>
<td>3% per year</td>
</tr>
<tr>
<td>Ovarian</td>
<td>18%</td>
</tr>
<tr>
<td>Prostate</td>
<td>7.5-39%</td>
</tr>
<tr>
<td>Male breast cancer</td>
<td>6%</td>
</tr>
<tr>
<td>Other</td>
<td>Low</td>
</tr>
<tr>
<td>Pancreatic</td>
<td>2-7%</td>
</tr>
</tbody>
</table>
ASBS & NCCN guideline for BRCA testing

- Early onset breast cancer (< age 50)
- 2 primary breast cancers, either bilateral or ipsilateral
- Family history of early onset breast cancer
- Male breast cancer
- Personal or family history of ovarian cancer (particularly non-mucinous types)
- Ashkenazi (Eastern European) Jewish heritage
- A previously identified BRCA1 or BRCA2 mutation in the family
- “Triple negative” (ER-, PR-, Her2-) breast cancer diagnosed prior to age 60.
- Pancreatic cancer associated with a family history of hereditary breast and ovarian related cancer
- http://www.brcacalculator.com
Surgical treatment options for breast cancer

- Breast Conservation Therapy (75%)
  - Traditional lumpectomy/partial mastectomy
    - Accelerated Partial Breast Irradiation
  - Oncoplastic lumpectomy/partial mastectomy
    - Whole breast radiation therapy
- Mastectomy (25%)
  - No reconstruction
  - With reconstruction
    - Tissue expanders and subsequent implants
    - Flap reconstruction
      - Latissimus dorsi
    - TRAM flap
    - DIEP flap
Surgical treatment for breast cancer: local therapy

- Local therapy for breast cancer
  - Lumpectomy alone (recurrence of 10%)
  - Traditional lumpectomy with APBI
  - Trend toward breast conservation therapy (BCT)
    - Oncoplastic lumpectomy + whole breast radiation therapy (recurrence of 2%)
  - Mastectomy
    - Immediate or delayed reconstruction should be offered
  - Achieve negative margins and minimize re-excision using oncoplastic technique to obtain wider excision
  - Cancer staging using sentinel lymph node biopsy
    - LYPHOZURIN BLUE DYE AND TACHICHIUM COLLOID
  - Axillary dissection
Surgical treatment for breast cancer: Breast conservation therapy
Surgical treatment for breast cancer

Oncoplastic Lumpectomy with inverted T mammoplasty incision for 6 o’clock IDC
Surgical treatment for breast cancer: mastectomy

*Mastectomy without reconstruction*

*Mastectomy with immediate or delayed reconstruction*
Surgical treatment performed by breast surgeon & plastic surgeon

Mastectomy with
Flap Breast Reconstruction:

- Latissimus dorsi flap
- Abdominal flap
  - TRAM Flap (Transverse Rectus Abdominus Myocutaneous Flap)
  - DIEP Flap (Deep Inferior Epigastric Perforator Flap)
Surgical treatment for breast cancer: Systemic Therapy

- Systemic therapy for breast cancer
  - Neoadjuvant chemotherapy
  - Herceptin therapy (concurrent with radiotherapy)
  - Adjuvant chemotherapy
    - Oncotype DX (NCCN and ASCO guidelines)
      - www.adjuvantonline.com
  - Hormone therapy
    - Tamoxifen, Aromatase inhibitors
Summary

- Breast cancer patients benefit from multidisciplinary approach
- MRI as a preoperative staging imaging modality is controversial but it is helpful in some cases of breast cancer.
- Helping our patient understand their diagnosis, their cancer, therapeutic options available and timeline of their treatment will help decrease anxiety associated with a breast cancer diagnosis.
- Breast navigators help our patients navigate through this journey.
- Customized treatment for breast cancer is the norm today and is based on age, genetic testing result, tumor to breast size ratio, co-morbidities, pathology, lymph node involvement, recurrent breast cancer, presence of implants and patients’ preference.
- Regular follow-ups with breast imaging, oncologists, PCP or surgeons are part of cancer surveillance after treatment.
Thank You