Breastfeeding and cancer screening

GRAND ROUNDS
ANNA HARING, PGY3
DECEMBER 2016
Conflicts

- None
FIGURE 1
Proportion of children who were exclusively breastfed for three months, based on data available from 2004 to 2012

Is Breast Best?

- Prevents infection
  - Less otitis media
- Increased intelligence
  - 2.6 to 7 IQ pt increase when controlling for home environment factors
- Lower chance of obesity
  - 26% reduction, across all income levels
- 36% lower chance of SIDS
- 58% lower chance of necrotizing enterocolitis
Maternal benefits of breastfeeding

- Decreased risk of breast cancer
  - Each 12mo of BF was associated with a 7% decrease in invasive breast cancer
- Decreased chance of ovarian cancer by decreasing ovulation
- Improved birth spacing
- Weight loss
  - BMI was 1% lower for each 6mo of BF
  - Burn 300-500 cal per day
- Lactational amenorrhea
Lactational amenorrhea

- If used correctly:
  - 1 in 100 women will become pregnant
- Effective contraception for first 6 months
  - No period since prior to delivery
  - Baby is exclusively breastfeed
  - Feeds at least every 4 hrs during the day and 6 hrs at night
How to promote lactation

- Skin-to-skin in first hour of birth increased BF by 42 days
- Initiating milk expression within first 6 hrs of birth increases milk production
- Distribution of formula in the office decreased BF rates and implies a healthcare providers endorsement of a specific brand.
- Lactation coverage is included under preventive services under ACA
Walk-in Clinic: Monday – Friday 12 – 3 p.m.
Medical Arts Tower, First Floor, Suite 105
3243 E. Murdock, Wichita, KS

The walk-in clinic is free of charge to women whose babies were born at Wesley. A one-time chart initiation fee of $50 is required for women who did not deliver at Wesley. For more information, call (316) 962-6455.

LEARN:

- “Latch on” the baby comfortably
- Find the best position for feeding
- Weigh the baby
- Make a family breastfeeding plan
- Monitor milk supply
- Deal with breast problems, including engorgement, infection, and plugged milk ducts
- Prepare for return to work or school
- Learn how to store breast milk safely
Oversupply

- Try feeding on only one breast for each meal
- Shorten time of feeding
- Feed baby before he/she is super hungry
- Alleviate engorgement by pumping for a very short time
  - Cabbage leaves and frozen peas on the engorged side
- Human milk 4 human babies Kansas on Facebook
- Connects with local parents wanting to provide breast milk for their babies
Donate your extra breast milk to the Wesley Donor Milk Program and help preemies!

- Complete an online application
- Complete qualification steps
- Receive free milk storage bags
- Ship your frozen milk using provided cooler
- Milk is processed into 100% human milk nutritional products by Prolacta Bioscience®
- Products are shipped to the NICU at Wesley and NICUs around the country
- Earn $300!
Should I Breastfeed?

**DO NOT breastfeed**
- HIV+, HTLV+
- Active, untreated TB
- Chemo
- Active HSV or varicella on nipple
- Baby with galactosemia

**Safe to BF**
- On warfarin
- Stable methadone dosing
- Pregnant
  - Not at high risk of preterm labor
Hands Free

pump with your shirt on
Breastfeeding misconceptions

- No effect on infant’s food allergies, eczema, or asthma
- No effect on HTN and high cholesterol
- Increased risk of dental caries when BF >12mo
- Leaking breasts are common
  - Start producing colostrum at 16wga
Bloody breast milk

1. Intraductal papilloma
   - Benign
   - Resolves on own

2. Cracked nipples
2. Broken capillaries
   - Breast injury
   - Use slower, more gentle setting on pump

3. Vascular engorgement
   - “Rusty pipe syndrome”
   - Orange/pink milk
   - More common in first time mothers
   - Resolves in a week
More breastfeeding questions?

(316) 962-6455.
Breast cancer screening

- Lifetime risk is 12.08% or 1:8
- 90% of patients have 10+ years of survival if diagnosed at <1 cm
- Sojourn time is 3 yrs
  - Can be detected by mammography 3 yrs before symptom onset
<table>
<thead>
<tr>
<th>Source</th>
<th>Mammography</th>
<th>Clinical Breast Examination</th>
<th>Breast Self-Examination Instruction</th>
<th>Breast Self-Awareness</th>
</tr>
</thead>
<tbody>
<tr>
<td>American College of Obstetricians and Gynecologists</td>
<td>Age 40 years and older annually</td>
<td>Age 20-39 years every 1-3 years</td>
<td>Consider for high-risk patients</td>
<td>Recommended</td>
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<tr>
<td>American Cancer Society</td>
<td>Age 40 years and older annually</td>
<td>Age 20-39 years every 1-3 years</td>
<td>Optional for age 20 years and older</td>
<td>Recommended</td>
</tr>
<tr>
<td>National Comprehensive Cancer Network</td>
<td>Age 40 years and older annually</td>
<td>Age 20-39 years every 1-3 years</td>
<td>Recommended</td>
<td>Recommended</td>
</tr>
<tr>
<td>National Cancer Institute</td>
<td>Age 40 years and older every 1-2 years</td>
<td>Recommended</td>
<td>Not Recommended</td>
<td>—</td>
</tr>
<tr>
<td>U.S. Preventative Services Task Force</td>
<td>Age 50-74 years biennially</td>
<td>Insufficient evidence</td>
<td>Not Recommended</td>
<td>—</td>
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<tr>
<td>Table 4. Factors That Increase the Relative Risk of Breast Cancer in Women</td>
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<td>---------------------------------------------------------------</td>
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<tr>
<td><strong>Relative Risk</strong></td>
<td><strong>Factor</strong></td>
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<td>--------------------------</td>
<td>-----------------------------------------------------------------------------</td>
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<td></td>
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<tr>
<td>&gt;4.0</td>
<td>Female</td>
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<tr>
<td></td>
<td>Age (65+ vs &lt;65 years, although risk increases across all ages until age 80)</td>
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<td></td>
<td>Certain inherited genetic mutations for breast cancer (BRCA1 and/or BRCA2)</td>
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<td>Two or more first-degree relatives with breast cancer diagnosed at an early age</td>
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<td>Personal history of breast cancer</td>
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<td></td>
<td>High breast tissue density</td>
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<td></td>
<td>Biopsy-confirmed atypical hyperplasia</td>
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<tr>
<td>2.1–4.0</td>
<td>One first-degree relative with breast cancer</td>
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<td></td>
<td>High-dose radiation to chest</td>
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<td></td>
<td>High bone density (postmenopausal)</td>
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<td>1.1–2.0</td>
<td>Late age at first full-term pregnancy (&gt;30 years)</td>
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<td>Early menarche (&lt;12 years)</td>
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<td></td>
<td>Late menopause (&gt;55 years)</td>
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<tr>
<td></td>
<td>No full-term pregnancies</td>
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<td></td>
<td>Never breastfed a child</td>
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<td></td>
<td>Recent oral contraceptive use</td>
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<td>Recent and long-term use of estrogen and progestin</td>
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<td></td>
<td>Obesity (postmenopausal)</td>
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<tr>
<td>Other factors</td>
<td>Personal history of endometrial or ovarian cancer</td>
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<tr>
<td></td>
<td>Alcohol consumption</td>
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<tr>
<td></td>
<td>Height (tall)</td>
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<tr>
<td></td>
<td>High socioeconomic status</td>
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<tr>
<td></td>
<td>Ashkenazi Jewish heritage</td>
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</tbody>
</table>
Breast cancer risks

- Moderate alcohol consumption increases concentration of sex hormones in pre and postmenopausal women
- Million Women Study in UK:
  - 7% increased risk of breast cancer per daily drink of alcohol consumed
  - White and red wine similar
Screening for high risk patients

- BRCA+ or untested
  - Also discuss risk reduction surgery
- Lifetime risk of 20% or more
- Personal hx of high risk bx
  - Annual mammo, clinical exams, self exams
  - Annual MRI for LCIS but not DCIS or invasive breast cancer
- Thoracic radiation between 10-30yo
  - Extra screening at 25yo or 10yrs after radiation, whichever is later
Use of breast ultrasound

- Evaluate inconclusive mammo results
- Young patients
- Dense breast tissue
- Guide tissue core-needle biopsy
- Cyst vs solid mass
ACS recommends breast MRI for:

- >20% lifetime risk of developing breast cancer
- Known BRCA mutation
- 1st degree relative w/ BRCA and pt with unknown status
- Chest radiation between 10-30yo
- Genetic syndromes:
  - Li-Fraumeni
  - Cowden syndrome
Breast self exam

- Breast self-awareness recommended
- Shanghai breast self exam trial
  - 266,000 women, 39-72yo, 10yrs F/U
  - No difference in cancer related deaths
  - Self exam group twice as likely to get biopsies of benign lesions

Clinical breast exam

- 58% sensitive
- 93% specific
- 7:1000 cases of cancer detected by abnormal exam, normal mammo
- Annual for 40+ yo
- Q1-3yrs for 20-39yo
What type of mammogram?

**Digital**
- Better for women <50yo
- For women with dense breasts
  - 82% sensitive (up from 62% with film)
- Pre or perimenopausal

**Film**
- Similar diagnostic accuracy for population
Dense breasts

- Normal and common
- Younger women
- 40-50% of women undergoing mammography
- Less sensitive mammography due to increased radiation absorption
  - 62-68% sensitive compared to 85% sensitive in women with fatty tissue
- Slightly increased risk of developing breast cancer
- Digital mammography more effective than film
- ACOG does NOT recommend routine use of additional screening in asymptomatic women with dense breasts and no other risk factors
Fatty
Scattered fibroglandular density
Heterogeneously dense
Extremely dense

*GE Healthcare mammography images*
## Table 1. BI-RADS Breast Density Categories, Demographics, Sensitivity of Cancer Detection, and Breast Cancer Risk

<table>
<thead>
<tr>
<th>BIRADS</th>
<th>Description</th>
<th>Percentage of Population*</th>
<th>Sensitivity† (%)</th>
<th>Relative Risk of Breast Cancer‡</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Almost entirely fat</td>
<td>10</td>
<td>88</td>
<td>---</td>
</tr>
<tr>
<td>2</td>
<td>Scattered fibroglandular densities</td>
<td>43</td>
<td>82</td>
<td>---</td>
</tr>
<tr>
<td>3</td>
<td>Heterogeneously dense</td>
<td>39</td>
<td>69</td>
<td>1.2 (compared with average breast density)</td>
</tr>
<tr>
<td>4</td>
<td>Extremely dense</td>
<td>8</td>
<td>62</td>
<td>2.1 (compared with average breast density)</td>
</tr>
</tbody>
</table>

Abbreviation: BI-RADS, Breast Imaging Reporting and Data System.


BREAST DENSITY NOTIFICATION LAWS BY STATE

May 26, 2016

Notification Text: “Your mammogram shows that your breast tissue is dense. Dense breast tissue is common and is not abnormal. However, dense breast tissue can make it harder to evaluate the results of your mammogram and may also be associated with an increased risk of breast cancer. This information about the results of your mammogram is given to you to raise your awareness and to inform your conversations with your doctor. Together, you can decide which screening options are right for you. A report of your results was sent to your physician.”

Breast density notification laws have been put into effect in 27 states. Legislation Passed (27) In Process (8) No Action (15)

Breast density notification law requires that physicians notify women who have undergone mammography and were found to have dense breast tissue.

<table>
<thead>
<tr>
<th>BI-RAD class</th>
<th>Description</th>
<th>Probability of malignancy (%)</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Needs additional evaluation</td>
<td></td>
<td>Diagnostic mammogram, ultrasonographic image</td>
</tr>
<tr>
<td>1</td>
<td>Normal mammogram</td>
<td>0</td>
<td>Yearly screening</td>
</tr>
<tr>
<td>2</td>
<td>Benign lesion</td>
<td>0</td>
<td>Yearly screening</td>
</tr>
<tr>
<td>3</td>
<td>Probably benign lesion</td>
<td>&lt; 2</td>
<td>Short interval follow-up</td>
</tr>
<tr>
<td>4</td>
<td>Suspicious for malignancy</td>
<td>20</td>
<td>Biopsy</td>
</tr>
<tr>
<td>4\a</td>
<td>Highly suspicious for malignancy</td>
<td>90</td>
<td>Biopsy</td>
</tr>
<tr>
<td>5</td>
<td>Biopsy-proven malignancy</td>
<td>100</td>
<td>Treatment</td>
</tr>
</tbody>
</table>

BI-RAD = Breast Imaging Reporting Data System

\a The ACR recommends that each site be divided into three subcategories: 4A, low suspicion; 4B, intermediate suspicion; and 4C, moderate concern but not classic for malignancy.
References

- NEJM. Breast Density Legislation. 2015
- ACOG CO 625: Management of Women with Dense Breasts Diagnosed by Mammogram, 2015
- ACOG PB 122: Breast Cancer Screening, reaffirmed 2014
- http://jnci.oxfordjournals.org/content/101/5/296.long