Using the EHR for the identification of patients at high risk for hereditary breast and ovarian cancer.

Brian Drohan
University of Massachusetts
5/30/08
A Glance at Breast Cancer Epidemiology

Different patterns of disease incidence means different:
• Risk Factors
• Analysis Techniques
• Management Decisions

A Glance at Breast Cancer Risk Models

\[-0.74948 + 0.09401(\text{AGEMEN}) + 0.52926(NBIOPS) + 0.21863(\text{AGEFLB}) + 0.95830(\text{NUMREL}) + 0.01081(\text{AGECAT}) - 0.28804(NBIOPS} \\ 
\times \text{AGECAT}) - 0.19081(\text{AGEFLB} \times \text{NUMREL}).\]

\[
\begin{align*}
\text{PMR} &= \frac{\text{PARM}}{\text{FIR}} \\
\text{LR} &= \frac{\text{NBIOS}}{\text{MEN}} \\
\text{PARM} &= \text{LR} \times \text{FIR} \\
\text{PMR} &= \text{LR} \times \text{PARM} \\
\end{align*}
\]
Techniques for collecting FH data
“...The strengths and weaknesses of the various models described here become apparent as the different output screens are accessed and compared...”
Breast
Ovarian
Colorectal
As her risk of mutation is 10% or greater, and her lifetime risk of breast cancer is 20% or greater, the patient does meet the ACS guidelines for MRI screening. While we will begin MRI screening now, it will be useful to consider genetic testing, which may provide us with sufficient information to possibly stop doing MRI.
Accession Number: S99X41314 Report Status: Final Type: Surgical Pathology

Pathology Report: S99-X41314

OPERATION DATE: 30 AUG 99
ACCESSIONED ON: 30 AUG 99 at 13:15

CLINICAL DATA: Ductal carcinoma in situ with positive margin and residual calcium on outside biopsy.

FINAL DIAGNOSIS:

*** BREAST (LEFT), RE-EXCISION: ATYPICAL DUCTAL HYPERPLASIA, MULTIPLE FOCI, ADJACENT TO BIOPSY CAVITY, AND FOCALLY PRESENT AT MARGINS OF THE SPECIMEN. LOBULAR NEOPLASIA (LOBULAR CARCINOMA IN SITU), LARGE STROMAL CALCIFICATIONS ADJACENT TO BIOSPY SITE. FIBROCYSTIC CHANGES WITH MICROCALCIFICATIONS. BREAST (LEFT) FINAL SHAVED MARGINS: ATYPICAL DUCTAL HYPERPLASIA, SMALL FOSS. Diagnosed by MARIAM S. MOHAMMADKHANI, MD Signed On: 07 SEP 99 at 09:17

GROSS DESCRIPTION: Received fresh in the Frozen Section Laboratory, labeled with the patient’s name, unit number, and “left breast re-excision,” is a small piece of breast tissue, 3.0 x 2.5 x 2.0 cm, the specimen is inked black, the superior margin marked by a short inked stitch is overinked yellow; the posterior margin, overinked orange; the inferior margin overinked blue. The lateral margin is oriented by the long black stitch. Serial sectioning reveals a biopsy cavity 1.5 x 1.0 x 0.8 cm, surrounded by fibrous tissue with fat necrosis. The cavity is 0.3 cm from the anterior (closed) margin. The remaining breast parenchyma appears grossly unremarkable. Also received is an additional fragment of unremarkable skin-covered fibrofatty tissue measuring 2.2 x 1.5 x 0.8 cm. SECTION CODE A and B: Biopsy cavity with anterior and superior margins, D and C: Biopsy cavity with anterior and inferior margins, E: Representative normal parenchyma (also posterior margin), F: Separate skin-covered fragment, J-M: Additional sections of biopsy cavity and surrounding parenchyma. Received fresh, labeled with the patient’s name, unit number, and “left breast final shaved margins,” are unoriented fragments of fibrofatty breast tissue, loosely aggregating to 3.5 x 3.0 x 0.7 cm. Submitted entirely in G-I. Resident: ANUPAMA GUPTA, MD

INTRA-OPERATIVE DIAGNOSIS:

GROSS DIAGNOSIS, BREAST (LEFT), RE-EXCISION: PREVIOUS BIOSPY SITE: NO LESION GROSSLY SUSPICIOUS.

O.R. Diagnosis by: Gunnlaugur P. Nielsen, MD

SOURCE CARE UNIT: SAME DAY SURGICAL UNIT - ACC3 REPORTS TO: Barbara Lynn Smith, M.D. PART A: BREAST (LEFT), RE-EXCISION PART B: BREAST (LEFT) FINAL SHAVED MARGINS
Standards for structured data is essential
## Special Thanks

<table>
<thead>
<tr>
<th>University of Massachusetts</th>
<th>Massachusetts General Hospital</th>
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| • Prof. Georges Grinstein
• John Sharko
• Christine Lawrence
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• Others at IVPR                          | • Dr. Kevin Hughes
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