New Frontiers in Breast Cancer Detection

Novel Quantitative CAD^3 (qCAD) for Mammography

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Challenge

- An estimated 310,660 US breast cancers will be diagnosed in 2016[1]
- In 2015, it's estimated that almost 30% of newly diagnosed cancers in women will be breast cancers[1]
- Nearly 20% of breast cancers are initially not detected on mammograms[2]

Potential Value to Radiologists

Reducing False Negatives

- Improved sensitivity could lead to earlier lesion detection
- May increase confidence in diagnosis

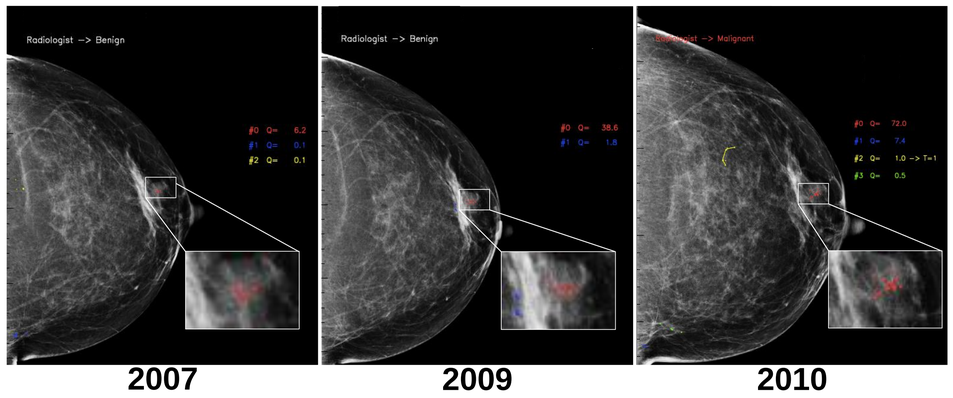
Reducing False Positives

- Fewer False Positives per Image (FPPi) could improve clinical efficiency
- May reduce screening recall rates

1. http://www.breastcancer.org/symptoms/understand_bc/statistics
2. Hubbard RA, Kerlikowske K, Flowers CI, et al.: Cumulative probability of false-positive recall or biopsy recommendation after 10 years screening mammography: a cohort study. Ann Intern Med 155 (8)

Risk Score Index for Early Detection

qCAD score may detect breast cancer before radiologists - in this case 4 years prior to diagnosis



Higher qCAD score = Higher suspicion for cancer

Rapid change in qCAD score over time = High grade lesion

Potential for Reduced Cost & Pain

Radiologists

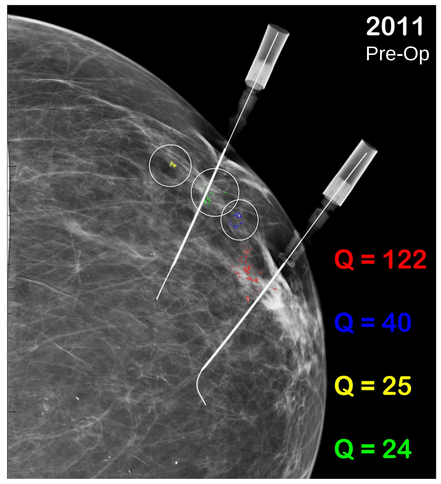
- 75% false positive biopsy rate[1]
- $4 Billion spent annually on mammography false positives[2]

CureMetrix

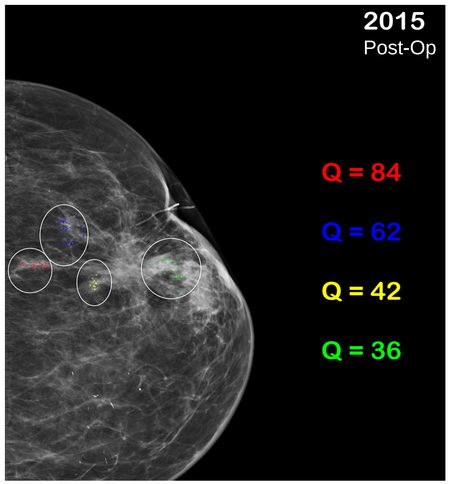
- Potential to decrease the number of biopsies by 50% after retrospective review of images[3]
- Fewer recalls & biopsies would save money and patient agony[4]

1. http/jama.jamanetwor.com/article.aspx?articleid=2203798
2. http://www.medpagetoday.com/HematologyOncology/BreastCancer/50898
3. Abstract (2801), Reducing Biopsies: Novel Mammographic Algorithm, for oral presentation at the American Roentgen Ray Society's 116th Annual Meeting
4. http://online.liebertpub.com/doi/full/10.1089/jwh.2014.1511

Potential to Better Identify Cancer Margins



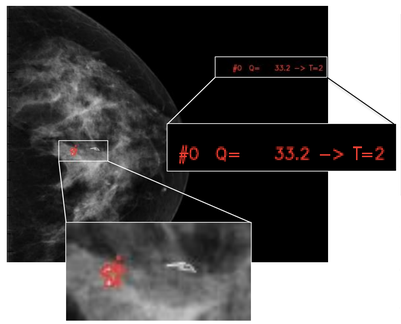
Lesions which would have been identified with qCAD[1] were not removed at surgery



Local regional recurrence four years later was treated with a mastectomy

1. Based on retrospective review using CureMetrix, Inc. technology

Fewer False Positives Per Image (FPPi)



	CureMetrix[1]	Other CAD[2]
Sensitivity	***90%***	90%
Specificity	***86%***	73%
FPPi	***0.047***	***0.19***

Type 2: CureMetrix correctly coded this false positive and could have eliminated this unnecessary biopsy.

1. CureMetrix Inc, data (unpublished)
2. http/www.accessdata.fda.gov/cdrhdocs/pdf12/p1200004b.pdf

The CureMetrix technology described in this poster is in the research stage of development and is not available for clinical use. The product has not been reviewed by the Food and Drug Administration or any other regulatory body. Additional review may be necessary before a product can be offered commercially. CureMetrix is currently evaluating the regulatory requirements for its products in development.