



SpectraLook

Computer-aided detection for breast MRI assists in identifying subtle lesions while speeding interpretation.

Washington Radiology Associates, PC (WRA) has been providing medical imaging services in the Washington, D.C. metro area since 1948. It was the first practice group in the Washington area, and among the first in the nation to be accredited for mammography by the American College of Radiology (ACR); the first in the United States accredited for ultrasound by the ACR; and among the first to be accredited for Magnetic Resonance Imaging. WRA offers the following imaging services resulting in over 30,000 diagnostic imaging exams being performed each month: Mammography, Needle Biopsies, MRI, MRA, Ultrasound, Bone Densitometry, Nuclear Medicine, General X-Ray, Fluoroscopy, PET/CT, CT including virtual colonoscopy and cardiac scoring screening exams.

Dr. Ramin Abraham, a Board Certified Diagnostic Radiologist, has been interpreting CT, MRI and ultrasound cases for over 10 years following his fellowship at the Hospital University of Pennsylvania, and he currently reads approximately 100 Breast MRI cases a month. In 2008, WRA decided to add iCAD's SpectraLook and CADvue solutions to their breast MRI program because they believed these tools would provide their clinicians with a more efficient way to identify and assess suspicious lesions. In addition, iCAD's solutions were able to be easily incorporated into their clinical practice. The following case review reinforces WRA's decision.

Case Review: May 2008

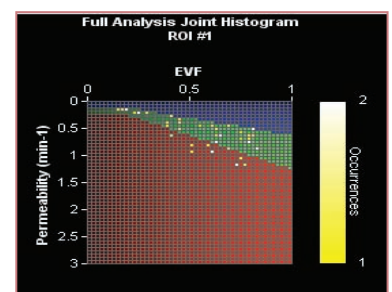
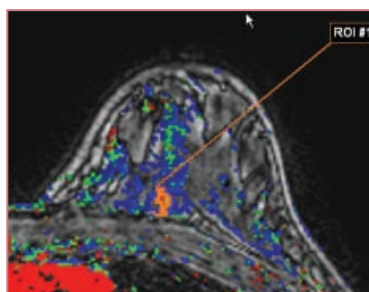
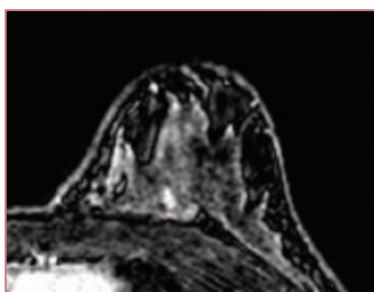
Patient History: A 38-year old patient with a strong family history of breast cancer; her mother died at age 49 of breast cancer, as well as her 2 maternal aunts, maternal grandmother and 3 cousins have had breast cancer.

Exam: A bilateral breast MRI exam, with and without contrast, using a Philips Medical Systems 1.5T Achieva MRI system.

Image Analysis and Review Software: iCAD's SpectraLook image analysis software with CADvue.

Findings: A 5mm x 3 mm focus of enhancement in the upper inner quadrant of the left breast at the 11:00 axis posterior one-third. The enhancement presented as a mostly Type II plateau enhancement curve in the dynamic post-gadolinium sequence. Because of an associated tiny focus with a Type III curve, the lesion was assessed as probably benign – BI-RADS Category 3 assessment.

Recommendation: A short-term follow up MRI exam with and without contrast in 6 months to evaluate any changes in the morphology or kinetics of the lesions.



Case Review: November 2008 Follow-Up

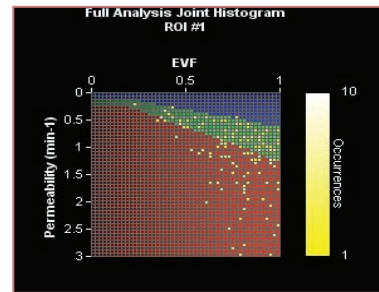
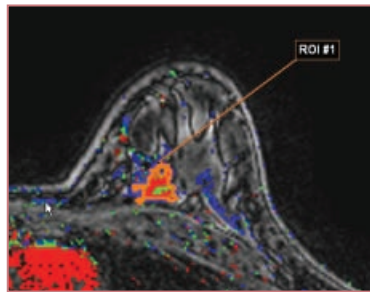
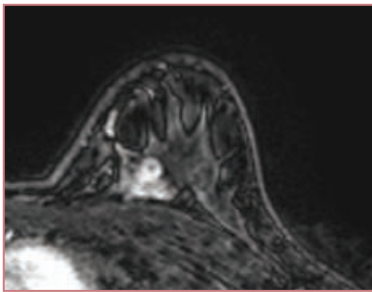
Exam: MRI bilateral breast exam with and without contrast.

Image Analysis and Review Software: iCAD's SpectraLook with CADvue was used to compare the results to the previous study performed in May, 2008.

Findings: Two left breast lesions – the first was a 15 to 16 mm rapidly enhancing lesion in the deep central portion of the left breast adjacent to the chest wall. The second, was a centimeter-sized lesion 1 to 2 cm anterior and 1 to 2 cm inferior to this larger lesion, classified as a BI-RADS 4 - Suspicious Abnormality. The radiologist also noted enlarged left axillary lymph nodes.

Recommendation: An ultrasound guided biopsy.

Outcome: One week later, an ultrasound-guided biopsy was performed on the left breast and the pathology report indicated that the lesion in the 10 o'clock position of the left breast was invasive ductal carcinoma.



Clinical Benefit of SpectraLook and CADvue

"In this particular case, SpectraLook and CADvue enabled me to further scrutinize an area of suspicious enhancement in the left breast that supported my recommendation of a short term follow up, which ultimately helped identify a lesion that turned out to be malignant," stated Dr. Abraham.

"Additionally, SpectraLook enabled me to interpret this Breast MR exam more rapidly due to the All-Time Point (ATP) algorithm's ability to analyze a fast dynamic contrast-enhanced series while at the same time maintaining high spatial resolution. The ability to provide high quality image analysis is critical to my ability to accurately assess subtle areas of enhancement such as the one that we identified in this patient."

"Having this additional quantification tool was helpful in this situation where the morphology analysis was somewhat ambiguous and I needed more information to make a clinical decision. It also was very helpful in tracking the patient's lesion over time so we were more effective in identifying the rapid changes in its size and kinetics. SpectraLook and CADvue definitely helped me provide better care for this patient and she was able to receive treatment earlier than what may have been the case without these tools."



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