Researchers at the University of South Florida have developed a method of determining breast cancer risk via a computerized analysis tool.

A mammogram is a screening tool used to identify breast tissue abnormalities such as cysts, calcifications, and tumors. Research shows that annual mammography screenings can drastically reduce the mortality rate associated with breast cancer. Doctors recommend that most women begin regular mammograms at the age of 40. After years of consistent screenings, an electronic database will contain a series of clinically normal mammographic images. The magnitude of this data may be useful in the detection of new tumors and changes in breast tissue.

USF researchers have developed a method of determining breast cancer risk via a computer algorithm with a low probability of false negatives. This computerized analysis tool can establish a risk probability value associated with a patient, and a risk probability value calculated from general breast cancer risk factors. Examples of risk factors include age and reproductive history. Radiographically dense breast tissue is another known risk factor. Therefore, the technology also incorporates tissue measurements from the mammogram in the risk assessment. This novel method has the potential to greatly reduce the time spent analyzing low-risk mammograms, while also increasing the accuracy of mammogram evaluations. Furthermore, early detection can dramatically lower the mortality rate based on five year mortality rate research regarding women diagnosed with breast cancer.

**ADVANTAGES:**
- Early cancer detection in asymptomatic patients
- Detects abnormal tissue by multi-resolution model
- Quantitative risk assessment
- Low probability of false negatives

Digital Mammogram Showing:
(A) Suspicious Calcification Cluster
(B) Labeled Breast Density and
(C) the Detection Output

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