Increasing Accuracy of Breast Cancer Detection with Regulation Thermometry

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Microcalcifications in breast tissue indicate an increased risk for the development of certain breast cancers. Studies have shown that abnormal thermal patterns represent a far more reliable risk factor than family history (Gautherie, 1995). With the advent of Whole-Body Regulation Thermometry, patients who have been previously cleared by mammography, or had apparently benign fibrocystic mastopathies in their history, may show degenerative changes in the neuro-regulative response patterns in the specific breast areas prior to the manifestation of diagnosable pathologies.

In screening programs designed to identify women at high risk of developing breast cancer, in the primary care physician's office, or in breast centers, Regulation Thermometry should be considered for routine use in conjunction with other modalities for screening and diagnosis. In the primary care setting, a baseline thermogram should be recorded in all women, regardless of age, in order to minimize the risk of complacency as a result of a reliance on family history or negative findings from physical exams and even mammography.

The breast cancer rate is rising in women under the age of 45. And many women are seeking screening alternatives as a result of the US Preventative Services Task Force recommendation that mammography screening not begin until age 50. Until now there hasn't been an effective, non-invasive screening method that makes medical and economic sense for women in this age group. The combination of mammography and thermometry can provide more complete, holistic consideration for both anatomical and functional disturbances.

Several studies have demonstrated the effectiveness of a multimodality approach to breast diagnosis based upon complementary techniques. Of the available examination techniques, Regulation Thermometry is the only method which observes significant metabolic and vascular phenomena that occur in breast tissue responses to stress. While all other modalities essentially explore breast morphology alone, thermometry investigates functional physiology and its regulating (homeostatic) mechanisms. The systemic use of thermography in combination with physical examination, mammography, and ultrasound increases the overall accuracy of the early detection of cancer by 40% *(Gautherie, 1995).*

Regulation Thermometry adds two valuable dimensions to the diagnostic accuracy of breast screening:

1) It measures autonomic response projections through the internal tissues stimulated by a cool-air stress stimulus; and
2) It utilizes and describes signatures of disease patterns synthesized by over 35 years of clinical cases confirmed by pathology and radiological findings, incorporated into the computerized workstation software.

Case Study

A 42 year-old woman with fibrocystic breasts and negative mammography 9 months prior. Regulation Thermometry results: marked rigid (blocked) regulation in the right breast (Figure 1). Regulation Thermometry, however, is significantly more comprehensive in the fact that it can identify distant body points that link to the organ under evaluation and plays a direct role in the determination of suspicion. In the case of breast cancer, the lymph system as well as the endocrine system play additional roles in shaping some of the predisposing factors to neoplastic conditions. In this patient, both the alarm-point sternum was blocked, as well as 60% of the lymph points (neck).

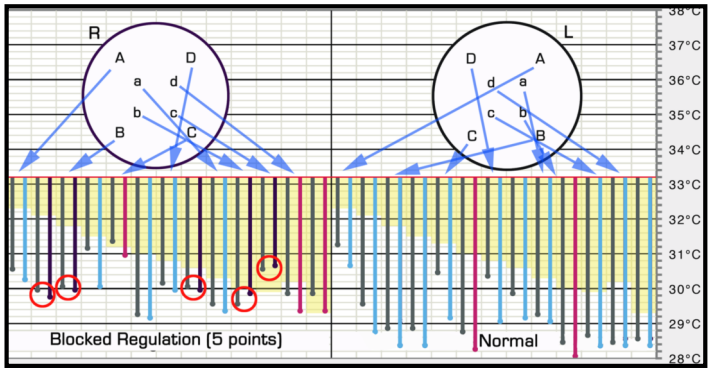

Figure 1: Temperature data before and after a stress stimulus show 5 points in the right breast aberrant to normal response physiology.

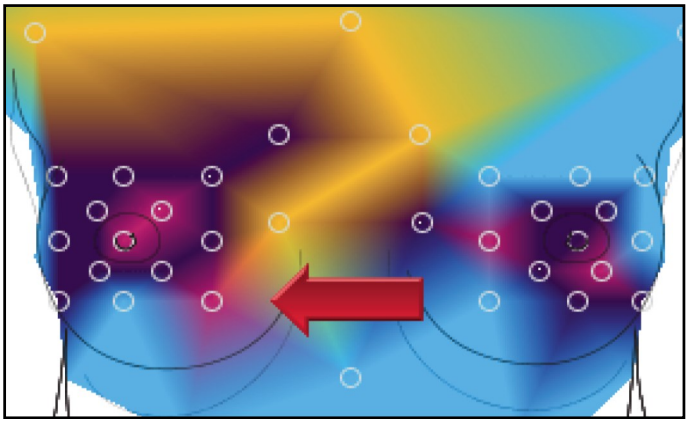

Figure 2: Temperature response-behaviors are then color-coded. Here, the darker blue-black color represents a blocked response; a suspicious signature pattern for possible neoplasm.

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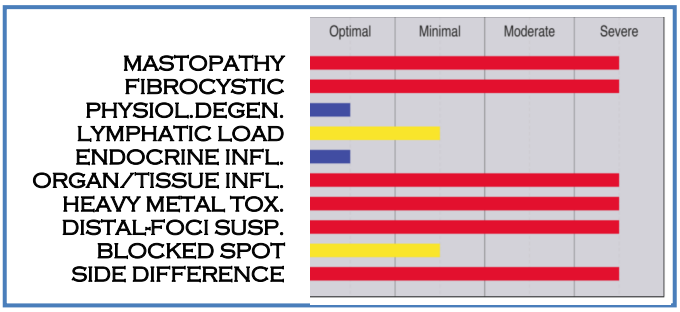

Figure 3: Software prioritized influences derived from local and distant systems increased the suspicion category, leading to a referral back to imaging (mammography).

After a suspicion was clarified by the Regulation Thermometry system, along with the references to possible concomitant abnormalities such as possible infections or endocrine imbalances, the patient was referred to mammography for the second time that year.

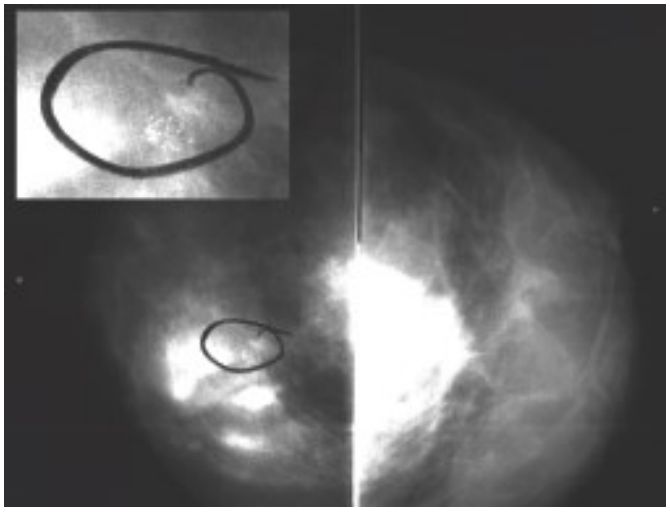

Figure 4: Mammography revealed several areas of calcification, suspicion for ductile carcinoma in-situ (DCIS). Biopsy result positive for ductile carcinoma.

Conclusion:

Thermometry can often visualize abnormalities in blood flow physiology that may not be seen in other imaging methods. Infrared camera methods fall short of potential identification of biophysical information that can be objectively viewed and carefully analyzed by Regulation Thermometry methods. By utilizing mathematically-analyzed temperature behaviors, blockages and characteristics of homeostatic abnormalities can be identified.

Regulation Thermometry is based on historical accumulation of tens of thousands of patient tests that have been correlated with clinically-verified medical conditions including diabetes, heart disease, immune disorders, neurological disorders, and various cancers. As a breast screening tool, it is a proven adjunct to accurate clinical decision making. Regulation Thermometry is non-invasive and may be used as frequently as needed to confirm not only breast pathology but functional physiology of the internal viscera and their interactions.

References:

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