

Theranostic Information Provided by FMTVDM © ®; B.E.S.T © ®. Imaging

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Until quite recently, diagnostic imaging has relied upon “qualitative” imaging limited by the ability to define disease as either present or absent. The first marker that you are using a “qualitative” test is a discussion of sensitivity, the ability to find disease when present and specificity, the ability to exclude disease when absent [1-9]. This yes/no approach to medicine reflects the limitations qualitatively imposed upon us despite the understanding that tissues don’t simply exist in either a “normal” or “diseased” state but rather a transition occurs as the genetic and environmental factors influencing tissues results in transitional changes, transitional changes which can now be fully appreciated and measured [1-9].

The quantitative ability (FMTVDM©®; B.E.S.T.©® Imaging) to measure changes in regional blood flow and tissue metabolism [1-9] now makes it possible to differentiate several changes in tissue type; recognizing a “Health-Spectrum” defined by Figure 1.

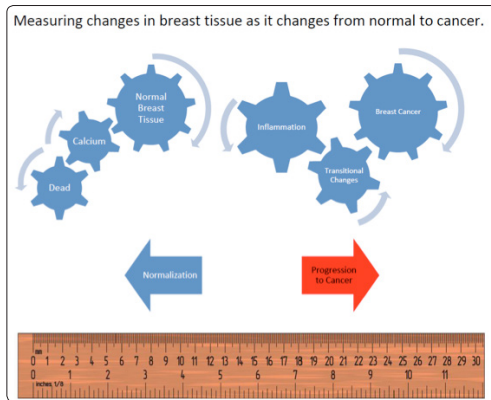


Figure 1: “Health-Spectrum”

The interaction between cellular genetics and environmental factors consequently influence changes in tissue resulting in transitional changes including regional blood flow differences and metabolism. At one end of the spectrum is the absence of life, which may or may not be associated with a significant accumulation of cellular debris, inter alia, calcium, which may occur prior to the actual loss of cellular “life”. In order of increasing regional blood flow and cellular metabolism are what is considered to be the “normal” state

of a given tissue; resulting changes occurring due to an increased signalling and consequential accumulation of an inflammatory state; sequentially followed by further changes in tissue transitioning through increasingly metabolically active tissue with increased metabolic activity and demands for increased regional blood flow, until arriving at a tissue state where the expected controls and functionality of tissue no longer exist; what has classically been defined as “cancer.” Implicit in this understanding is the appreciation that this continuum across transitional states reflects the interrelationship between these various “Health-Spectrum” states, which (1) are not defined by some arbitrary absolute cutoffs between tissue states, (2) demonstrate the ability of tissues to transition in either direction towards “normalization” or towards “cancer” and (3) allow for the absolute measurement of the effect of treatment upon any of these tissue states across the “Health-Spectrum” providing the ability to direct care at the “patient-specific” level, improving outcomes across these transitional states; saving time, money and most importantly lives.

A direct consequence and benefit of the ability to “measure” these transitional changes in tissue, is the ability to measure treatment outcomes over a spectrum of tissue health as demonstrated in the two follow case examples.

FMTVMD: Theranostics through Calibration, Enhancement and Quantification

While the concept of treating patients based upon their individual response has been discussed for some time, the ability to implement such treatment based upon imaging studies has been limited due to the use of “qualitative” imaging. With the introduction of FMTVDM; B.E.S.T. Imaging, absolute true “quantification” of both cardiac and oncologic imaging now exists [1-9].

Multiple Oncologic treatment regimens exist and are primarily implemented based upon population group outcomes dependent upon the staging of the extent and location of patient’s cancer and cancer type. Reminiscent of diets, advocates on both sides of the use of alternative therapies for breast cancer and pre-cancerous (transitional changes) tissue, include those who both believe in and are concerned with the impact that soy products has upon breast cancer. Theoretical considerations exist for both sides of this discussion; however, large-scale populations studies have shown that what works for some patients do not work for others and in fact, may even be detrimental. To that end, any given treatment

may now be measured, focusing in on “patient-specific” results to obtain optimal outcomes.

We present here the results of two women who elected to use a soy product proposed by the manufacturer as beneficial for transitional changes in breast tissue health and to measure the effect of that soy product by measuring the state of health for each woman before and after a period of elected treatment, using Breast Enhanced Scintigraphy Test (B.E.S.T.) Imaging.

Impact of Soy Product on Breast Health

The two women reported herein both elected to consume, at least during the periods where their Breast “Health-Spectrum” were being measured using B.E.S.T. Imaging, to consume a soy product produced by Revival Soy. The company did not pay for this study nor were they consulted in the publication of this paper. The product the women consumed daily consisted of the “soy shake” promoted by the company.

The first woman underwent B.E.S.T. Imaging over roughly a 7-month period of time. The values reported here, which define the tissue on the farthest right of the “Health-Spectrum” as defined in Figure 1, showed initial MCA (quantified measurements) values of 171 in the left breast and 176 in the right breast.

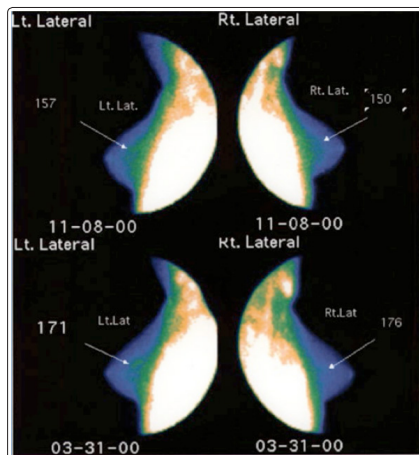


Figure 2: Beneficial outcome of woman taking a soy product

Breast Enhanced Scintigraphy Test (B.E.S.T.) Imaging under the FMTVDM patent, measured changes in a woman’s health over a 7-month period of time. During this time, the measured breast health showed normalization of breast tissue.

Following 7-months of the soy supplement, the tissue in both breasts showed a transition toward “normalization” with quantified measurements of 157 in the left breast and 150 in the right breast.

The second woman elected to take the soy supplement for a longer period of time. She had previously undergone a left mastectomy for breast cancer. Over the course of two years, she took the same product as the first woman. In this instance, she was continuing to see her Oncologist and other specialists. Throughout the two years her measured breast health showed a progression toward “cancerous” tissue. While it cannot be said that the soy product promoted this transition, any more than it can be said that it was the cause of “normalization” in the prior example, absent other interventions as was the case in these two women, the measured outcomes showed

an improvement in one woman and a deterioration in breast health in another, while taking this soy product.

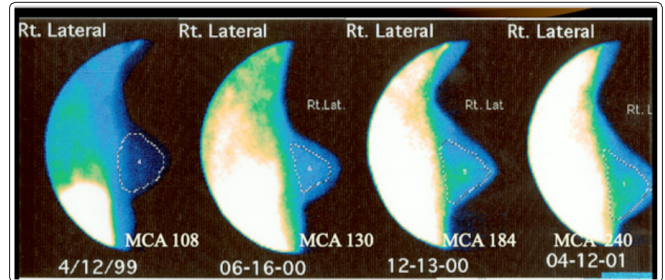


Figure 3: Detrimental outcome of woman taking a soy product

In this B.E.S.T. Imaging measurement of breast health across the “Health-Spectrum”, the woman showed a continual progression toward Breast Cancer while taking the soy supplement over a two-year period of time.

Conclusion

These results demonstrate the importance of first, quantitatively measuring the outcome of treatment in women electing any form of treatment which may impact their overall breast health rather than depending upon qualitative interpretation of what may or may not be seen by clinicians. Second, any given treatment or product will undoubtedly have different affects upon different individuals based upon differences in the genetic and environmental impact at the cellular and tissue levels; differences which can accurately be measured using FMTVDM and B.E.S.T. Imaging. Thirdly, caution should be exercised by individuals using supplements of any kind without the ability to accurately measure the impact of the outcome of those supplements. While it is one thing to put disclaimers on products promoted on the Internet or elsewhere that the product is not meant to replace the advice and treatment monitoring of a physician, it should be understandable that people do use the information they thusly obtain to make decisions in the absence of a physician, which requires time, insurance and sequential follow ups. It is also true that patients do not always tell their physicians what additional products they are taking, further complicating patient care while placing the physician at increased liability risk, which they were unaware of. This is true independent of whether we are looking at dietary and lifestyle practices or specific supplemental products.

Clearly, clinicians now have the ability to quantitatively measure the impact of medical management and treatment be it inter alia diet and lifestyle, medical management, hormonal, immunotherapy, radiation therapy or surgical treatments and they will now be held accountable for quantitative clinical decision making given the availability of this quantitative ability to measure where the patient is on the “Health-Spectrum” and their treatment response [1-9].

In our upcoming published studies, we will continue to review the quantitative measurements made to show the outcomes of hormonal therapy, smoking and other treatments not only in Oncology patients but Cardiac patients as well.

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