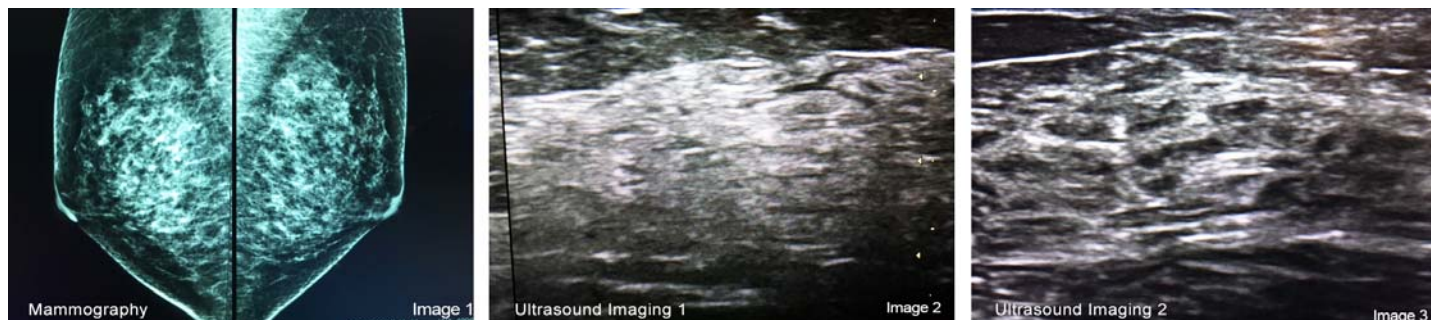


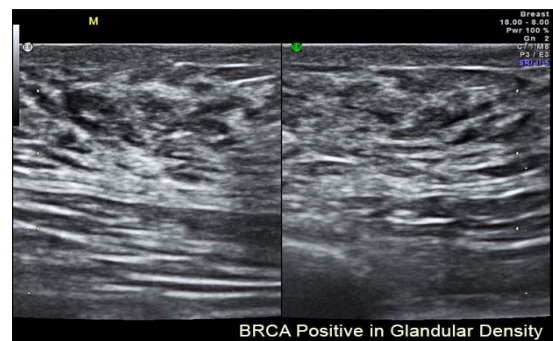
## PATHOLOGICAL VIEWS OF DENSE BREAST TISSUE: by Dr. Robert L. Bard - 12/2023

Decades since the advent of breast scanning technology, innovations in non-invasive diagnostic imaging provide new options in the field of early detection. A mammogram can show how dense your breasts are including how low or high in density. However, overcompression artificially lowers the radiographic density.

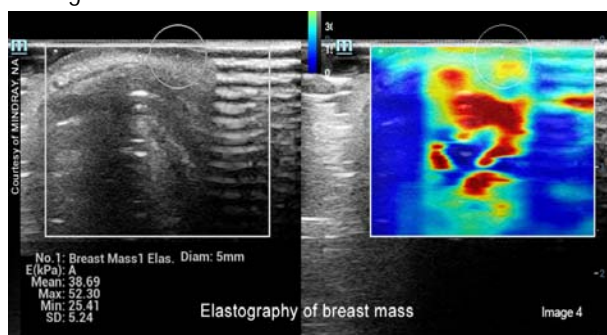


[Image 1] in this standard mammogram, a dense breast is presented side by side. The white shaped "V" that comes down the top center are the pectoral muscles of the chest wall. On the far outside, the white line is the skin outline of the breast. This is the dermal tissue causing the white line viewed enface. Radiologists always study this for any indication of inflammatory disease of the skin or inflammatory breast cancer, which manifests itself in skin thickening. Between the center wedge and the skin outline, you will find homogeneous cloudy areas with patchy black spaces within as an example of dense breast tissue.

Usually, dense breast tissue appears white on a mammogram. We must identify them as one of two forms of breast density; one is called **FIBROCYSTIC** or fibrous [Image 2] which is homogeneously white. Occasionally you can see a branching of blood vessels, dilated ducts or a streak of fat inside the dense breast tissue. This is the most common type of dense breast tissue and generally seen in the over 40 population.



[Image 3] Another example of a dense breast shows the difference between homogeneous white versus the whitish area. This is filled with dark, wormy looking structures, which are the breast glands called



**GLANDULAR** tissue. This kind secretes milk and its glands are often dilated. Both Fibrous and Glandular may appear similar under a mammogram as highly dense areas, but they look completely different under an ultrasound scan. Through ultrasound, we can check for tumors easily through fibrotic dense breasts because it stands out as a black region (or a black hole) within the white area. As shown in Image 3, a black hole could get lost, making it more difficult to image this type of dense breast. In this case, a solution is the use of **elastography** [Image 4], which offers visual confirmation as indicated by color data. Elastography can measure tissue density (its hardness or elasticity) within the glandular breast tissue.

This tissue type is more common in the under-40 age group and is associated with other glandular proliferation such as endometriosis and is reportedly linked to dermal inflammation. In published reports, comparative studies between FIBROUS and GLANDULAR breast tissue studies remain limited. We are observing (especially in the younger age groups) expanding reviews of these types of tissue density aligned with the rates of breast cancer to confirm the rate of malignancy in tissue alteration from normal.