

## **Nuclear Medicine Imaging Allows Immediate Prediction of Breast CA Response to Hormonal Therapy**

*An interesting report by the Society of Nuclear Medicine:*

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Innovative use of somatostatin receptor scintigraphy (SRS), a nuclear medicine imaging technique looking at how the body functions at the molecular level, may provide near immediate selection of breast cancer patients for endocrine therapy and offers a new tool in fighting the disease, according to a study published in the January Journal of Nuclear Medicine.

"The only technique used now to determine whether a patient's tumor is sensitive to hormonal therapy is examination of a piece of tumor tissue in a lab to see if hormone receptors are present," said Van Den Bossche, adding that this method has low accuracy [Bieke Van Den Bossche, M.D., Ph.D., from nuclear medicine department, Ghent University Hospital, Ghent, Belgium –ed.]. "With our technique, it is possible to take an imaging scan of the entire patient—and treatment should be started when metastasis occurs—to evaluate if the tumor lesions are hormone sensitive and to assess what treatment would be efficient," she noted. "Our technique can assess hormone sensitivity with a whole-body imaging scan, which can be applied whenever needed in the course of the disease for all lesions at one time," she added.

While SRS is routinely used in nuclear medicine for diagnosis, Belgian and Italian researchers used SRS for therapy prediction—a new and exciting field, noted Van Den Bossche. "We demonstrated the relationship between the expression of somatostatin receptors and the hormone sensitivity of human breast tumors along with use of somatostatin receptor imaging for selection of patients likely to respond to hormonal treatment," she said. By using 99mTc-labeled depreotide, which binds to somatostatin receptors and sends out flashes of light detected by a gamma camera, researchers were able to create an image of the presence of hormone-sensitive lesions in a patient's body. The study notes, "Sequential 99mTc-depreotide scintigraphy could allow for separation of responders and nonresponders immediately or as early as three weeks after initiation of treatment."