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"FRONTIERS IN BREAST CARE

Switch to Digital mammography Leads to Increased Cancer Detection Rates

The use of digital mammography equipment alone is responsible for an increased number of breast cancers detected at a community-based mammography facility, according to a study performed at San Luis Diagnostic Center in San Luis Obispo, CA.

Researchers found that there was a significant increase in the number of breast cancers detected following the switch from film-screen to digital mammography. The number of cancers detected prior to the switch averaged between 4.1 - 4.5 cancers per 1,000 women imaged. Following the switch, the cancer detection rate increased to 7.9 cancers per 1,000 women imaged and has remained high. Breast cancer detection rates were evaluated using an auditing system.

"Surprisingly, sixty to seventy percent of screening facilities in the United States are still using film-screen mammography. This is a disadvantage because digital mammography offers considerable advantages over film-screen mammography," he said.

"I would certainly encourage patients who are being screened to look for facilities that have digital technology because it is faster and has a higher cancer detection rate. There is a need for more studies like ours to confirm our findings," said Dr. Vernacchia.

This study appears in the August issue of the *American Journal of Roentgenology*.

Breast Cancer Risk May be Affected By The Way You Eat

How you eat may be just as important as how much you eat, if mice studies are any clue.

Cancer researchers have long studied the role of diet on breast cancer risk, but results to date have been mixed. New findings published in *Cancer Prevention Research*, a journal of the American Association for Cancer Research, suggest the method by which calories are restricted may be more important for cancer protection than the actual overall degree of calorie restriction.

"Understanding how calorie restriction provides protection against the development of mammary tumors should help us identify pathways that could be targeted for chemoprevention studies," said Margot P. Cleary, Ph.D., professor at the Hormel Institute, University of Minnesota. "Further identification of serum factors that are involved in tumor development would possibly provide a way to identify at risk individuals and target interventions to these people."

Previous studies have shown that intermittent calorie restriction provided greater protection from mammary tumor development than did the same overall degree of restriction, which was implemented in a chronic fashion. The researchers compared changes of a growth factor (IGF-1) in relationship to these two calorie restriction methods—chronic and intermittent—and tumor development beginning in 10-week old female mice at risk to develop mammary tumors. Their hope was to explain why intermittent restriction is more effective.

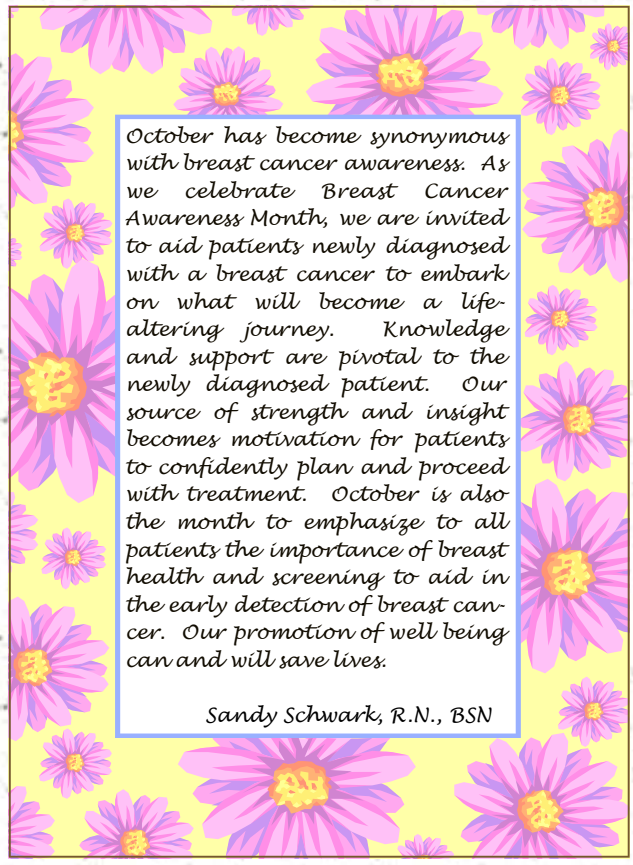
The overall degree of restriction was 25 percent reduction compared to control mice. Mammary tumor incidence was 71 percent in the control mice who ate the amount of food they wanted, 35 percent among those who were chronically restricted, and only 9 percent in those who were intermittently restricted calories.

The researchers were initially surprised by these findings for several reasons. First, the prevailing wisdom is that the degree of protection from calorie restriction is proportional to the degree of mammary tumor prevention. Second, they originally thought that intermittent calorie restriction might enhance tumor growth due to growth factors being secreted in response to re-feeding, Cleary said.

In an accompanying editorial also published in Cancer Prevention Research, Michael Pollak, M.D., stated that some major challenges of pharmacologic approaches to cancer prevention and/or treatment include defining the underlying causes and determining the relevance of these caloric restriction methods. Pollak is professor of oncology at McGill University and director of the Cancer Prevention Center at the Jewish General Hospital, both in Montreal.

This study "contributes to accumulating evidence that caloric restriction acts by altering hormone levels rather than by directly starving cancers of energy. In particular, lower levels of insulin are associated with reduced food intake, and this may be protective," said Pollak, who is also an editorial board member for Cancer Prevention Research.

Based on varied findings from clinical trials, Pollak suggested that lifestyle and pharmacologic methods to reduce IGF-1 and insulin deserve ongoing investigations. Clearly agreed, stating that these results may provide interest to more aggressively pursue cancer prevention studies related to calorie restriction.



Volume 3, No.2