CADN1 and breast cancer (CADN1 is a protein that gives rise to Methylation 1).

Authors: Tammy Harmon Joseph Kelley Mrs. Sharon Anderson MD Martha Lee Derek King

Published Date: 03-07-2016

California State University-Bakersfield

School of Biology

â€œIf youâ€™re considering putting a bubble on my chest, weâ€™ll have to talk about teratoma.â€

CADN1â€™s role in tumorigenesis in breast cancer

CADN1 is a protein that gives rise to Methylation 1 (Mo1) â€“ a transcription factor that supports the tumorigenesis in breast cancer cells. Essentially, mesenchymal stromal cells are observed at around the tumor mass.

However, at the time of the publication in this paper, it is unclear whether is is common to the normal breast, was found only in the tumors, and what the exact clinical effects of the trafficking of Methylation 1 would be. â€œIf we want to fully investigate the role of Methylation 1 in the breast cancer cycle, we will need more clinical samplesâ€ said fellow co-author, Professor Takaki Muto in Japan.

The correlation between the two studies was that mice lacking the mouse version of CADN1 died of breast cancer after being injected with a â€œbubbleâ€ (similar to what is shown in this paper). In case of patients, this was observed to effect mainly the tumor in the lung and the study showed that this link is common, but found separately from the overall breast cancer cell cycle.

Indeed, there is also a correlation between the ejection of the tumor from the lung and the levels of Mo1 in breast cancer tumor cells.

In the metastatic cancer, the cells are produced in a more regular process but with fewer stable populations than the normal breast cancers. They also appear less differentiated from the normal cells.

However, tumor cells that received Tumorase B in the mice had reduced sensitivity to the activity of Molecule 7, which is a drug that specifically inhibits Mo1 in breast cancer.

In the metastatic disease, the tumor cells exhibited cell migration down the larger cavity, showing a cross-connection between the normal system and the tumor cells. In an attempt to study their mutual existence, investigators aimed to divide the tumor cells into cells of normal and differentiated human breast cancer. However, the findings of the study are highly directional, as opposed to targeted.

CADN1 now plays a major role in breast cancer and there is an urgent need to collaborate with researchers in Japan and United States. However, it is also important to verify whether there are non-cancerous cells from normal human breast cancer outside the breast or the lymph glands that should be included in the study.

Notes

Reference: Ikizo Takehiko, Keishi Kiyomi, Shingo Shimizu, Seiji Utsumi, Norimitsu Kishi, Hideki Sakahira, & Masato Enari. Inactivation of the Mesenchymal Stromal Cellâ€Derived DNA Repair Attenuation Gene, or CADN1, by a Membrane Enzyme â€œbubbleâ€ demonstrates disease course of silicone cup breast cancer in mice. Cancer Cell, 24 May 2011. DOI: 10.1016/j.cell.2011.10.012

A Yellow Fire Hydrant Sitting In The Middle Of A Forest