

Pomegranate and the Breast Cancer Stem Cells - a detailed study about their link and a novel nutraceutical therapy

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Breast Cancer Stem Cell is a single, genetically abnormal cell. As this one culprit cell divides, it eventually becomes a tumor and develops a blood supply to nourish its continued growth. The target should be the cancer stem cells and not any normal cells. At some point, the cancer stem cells may break off from the primary mass and move through the blood supply or nearby lymph system to other parts of the body and this process is called metastasis. The most common sign of breast cancer is a new lump or mass. Most often when untreated a breast cancer stem cells trigger the cancer growth to spread to underarm lymph nodes even before the original tumor in the breast tissue is large enough to be detected. We are in need of a therapy/treatment to selectively kill cancer stem cells at the original tumor site and in distant metastases with no toxic effects on healthy cells, including normal stem cells. Cancer stem cells are critical to a cancer's ability to recur following conventional chemotherapies and radiation therapy because they can quickly multiply and establish new tumors that are often therapy resistant. Here comes the role of pomegranate which has a long history of use as a food and medicine in Asia and South America. According to the WHO, this medicinal plant is the best source to obtain variety of drugs. About 80% of individuals from developed countries use them in traditional medicine. The plant part or the compounds derived from the plants are now established recipe of both pharmaceuticals and nutraceuticals. There are many evidences that the pomegranate has good anti-cancer properties against prostate, bowel and liver cancer. But there are no studies so far looking at the use of pomegranate in humans. The objective of this paper is to provide a detailed report about why pomegranate in human breast cancer, scientific research proof for the medicinal quality of pomegranate, Sensitivity of Pomegranate and its hypersensitive reactions, its interactions with drugs and a novel nutraceutical therapy using pomegranate.

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