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Efforts at Finding Breast Cancer Cure Miss Point by not Examining Cause

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The Press Enterprise's Sept 30th 2011 pink ribbon edition was dedicated to breast cancer awareness. The special edition contained four articles on breast cancer which covered topics ranging from local fundraisers by various organizations aimed at encouraging screening for early detection and fund raising for finding a cure for breast cancer. But there was a glaring omission in the edition. The growing evidence of the link between cancer and the environment was never mentioned. I don't believe we can properly address breast cancer without addressing the cause of which overwhelming evidence points to the human burden of environmental toxins.

Breast cancer is the most common cancer amongst women in California. In the Inland Empire breast cancer rates are especially high. In 2009 alone, 2,790 new cases were diagnosed in the region. San Bernardino & Riverside County has the highest breast cancer mortality rates in all of California. As we would expect, a region with a high mortality rate for a deadly disease would in turn have a high mortality rate for that disease. However, in the Press Enterprise local experts claim to "not know why" the Inland region's breast cancer mortality rates are high. Just this October, Loma Linda School of Medicine, in conjunction with the Loma Linda School of Public Health published a paper in the *Journal of Clinical Oncology*. [1)] The authors state that the incidence of breast cancer in Riverside and San Bernardino County are higher than statewide averages. That's just what we would expect considering the region's mortality rates. The most likely driving force behind high breast cancer mortality rates in the Inland region are indeed the high incidence of breast cancer in the Inland region. Therefore the most important question to ask is not about breast cancer mortality rates but instead about breast cancer incidence rates in the Inland region.

Unfortunately the "why" of high breast cancer rates in the Inland region gets little attention in the media and elsewhere. Instead the focus is relegated to early detection, often misrepresented as prevention, and improved treatment options. An example of this is found an earlier paper by the Loma Linda School of Public Health along with the Susan G Komen foundation of the Inland Empire. They set out to "identify factors that contribute to the unequal burden of breast cancer among minority women in the Inland Empire." They concluded that lack of early detection and poor access to state of the art treatment are responsible. [2)] These factors do lead to delayed diagnosis and poorer outcomes but have nothing to do with influencing normal cells to become cancerous and therefore don't result in higher cancer incidence. Screening for cancer is necessary with cancer rates as they are, but it plays no role in actually preventing the development of cancer. Until we address the "why" of high cancer rates, I fear the rate of cancer

incidence will always outpace detection no matter how early, and treatment no matter how effective. Can there really be a cure for breast cancer without simultaneously decreasing breast cancer rates?

That brings us to the real issue, why are breast cancer rates increasing in so many regions including San Bernardino and Riverside counties. We can set aside any notion that the region has a large cluster of women genetically predisposed to breast cancer as this notion lacks rationale. It's well established that genetics accounts for only 5-10% of all cases of breast cancer in the U.S. What does that leave as the cause of the remaining 90-95% of breast cancers? The Susan G. Komen Foundation maintains a fact sheet on genes which claims that "most breast cancers are due to spontaneous gene mutations."

To attribute 95% of all breast cancers to spontaneity is misleading in the least and does a disservice to the public. Over the last several decades leading research centers, universities and other organizations have begun to establish a growing body of evidence linking toxins in our environment to breast cancer. The Inland region has the notoriety of possessing the worst air quality in the entire country. The association between air pollution and cancer is not new but the scientific validation mounts. Just this May the Mercer School of Medicine in Macon Georgia published a paper titled Ambient air pollution is associated with increased incidence in breast cancer. They found that emissions of carbon monoxide, sulfur dioxide, nitrogen oxides and volatile organic compounds are positively associated with breast cancer incidence. [3)] The authors conclude that "a higher incidence rate of breast cancer was found in high emission regions and metropolitan areas". A study in Montreal Canada found that for every 5 ppb increase in air concentrations of nitric dioxide there was a 25% increase risk of breast cancer amongst post-menopausal women. [4)] It may very well come to pass that air pollution is more strongly correlated with breast cancer than any other factor.

Researchers have linked several other toxins to breast cancer. University California Berkeley collaborated with other institutions to establish that dioxins were significantly related with breast cancer incidence. [5)] Other xenoestrogens such as perchloroethylene, also known at tetrachloroethylene, used in dry cleaning was found to cause breast cancer after it leached into the water of Cape Code Massachusetts residents from late 1960s to the early 1980s. [6)] When young females are exposed to the organochloride DDT their risk of breast cancer increases. [7)] Still other chemicals, such as polychlorinated bisphenols, and those belonging to the same class of chemicals as DDT have also been linked to breast cancer.

Xenoestrogens found throughout our environment thanks to the chemical revolution are foreign chemicals that exert an estrogen like action inside the body and include some of the chemicals previously mentioned. Others include phthalates and bisphenol A that leach from containers into food and water, household and agriculturally used pesticides, and hormones used to increase growth and milk production in livestock. Xenoestrogens are known as endocrine disruptors because of the negative influence they have on the endocrine system, which include the mammary glands. A women's lifelong exposure to estrogen has long been established as a risk factor for breast cancer. Xenoestrogens increase our exposure to estrogenic compounds thereby compounding breast cancer risk.

There is an increasing divide between what research institutions have revealed about the causes of breast cancer and the near sighted focus of many cancer foundations and the media. Overwhelming evidence suggests that the driving factors behind the high incidence of breast cancer in Riverside and San Bernardino Counties are environmental issues that especially include poor air quality. A host of other environmental chemicals including xenoestrogens likely confound breast cancer risk. While not minimizing the importance of advances in breast cancer

treatment, past and future; it should be recognized that the only way to truly win the battle against breast cancer is to identify, address, and reduce the high incidence rates of breast cancer

in the region. Poor access to detection methods like mammography or cutting edge treatments play no role in reversing breast cancer rates. According the article entitled Environmental pollutants and breast cancer, even if the relative risks of environmental factors are modest, discovery of a risk that can be modified would save many thousands of lives. [8)]

Any serious discussion about cancer cause and eradication should include environmental toxins as major risk factors. It is imperative for us to look more closely at the possible causes of breast cancer to effectively stem the rising tide of this disease. Before completing this article two more pieces on breast cancer were published in the Press Enterprise. Of the six articles published in the first week of October, still not one mentioned any possible link between the environment and breast cancer.

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