Characterization of coumestrol as an anticancer therapy against triple-negative Inflammatory Breast Cancer

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Cancer it's the second leading cause of death in females in the United States. Inflammatory breast cancer is an aggressive disease that progresses rapidly and can be difficult to diagnose and treat. Identification of novel substances that regulated proliferation, migration and apoptosis is important for suggest alternate treatment. Phytoestrogen, like coumestrol, are compounds that had been found in plants, especially soy and legumes. It had an antagonist effect in the estrogen receptor α of breast cancer cells, but the effect in estrogen non-genomic signaling in IBC has not been characterized. In contrast, estradiol is produced by the body in minimum concentrations. They had an agonist effect. The aim of the study was to compare the effect of estradiol versus a combination of estradiol with coumestrol in the proliferation, migration and apoptosis of inflammatory breast cancer cell lines. A concentration response will be evaluated. The expected results are that estradiol will increase the proliferation, migration and apoptosis (PMA) of the cells, but coumestrol will contrasts their effect and the PMA will decrease their rate. The impact of these studies will advance the efforts to identify and test effective targeted therapeutics for Inflammatory Breast Cancer.