THE ANTI-PROLIFERATIVE ACTIONS OF *VERNONIA AMYGDALINA* EXTRACTS IN HUMAN PROSTATE CANCEROUS CELLS IS ACHIEVED BY MICROTUBULE DISTABILIZATION.

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**Abstract:** Prostate cancer is the ninth most common cancer in the world, but it is the number one non-skin cancer in American men. Clinical studies are showing higher prostate cancer incidence rates and much poorer prognosis in Western societies, than in the rest of the world. While mortality rates slowly decline in some ethnic populations due to the advances in treatment strategies, the cancer incidence continues to grow. Most cancer treatment drugs on the pharmaceutical market target the microtubules and aim to alter their functions by depolymerization or hyper-stabilization, thus resulting in cell death. However, these drugs are also associated with a range of undesirable side-effects. Therefore, more natural chemotherapeutic agents are sought to combat the cancer epidemic. Previous studies show that low concentrations of an edible Nigerian plant, *V. amygdalina* (VA), potently arrest the proliferative activities of estrogen receptor positive (ER+) human breast cancer cells (MCF-7). We hypothesized that exposure of prostate cancer cells (PC-3) to similar concentrations of VA extract could retard their proliferation as well as effect microtubule dynamics. Treatment of cells with relevant concentrations of VA potently inhibited growth in a concentration-dependent fashion with an IC-50 of 25 µg/ml. Immunofluorescence microscopy revealed that the incidence of microtubule abnormalities increased with VA concentration suggesting the microtubules as potential targets of the extract.

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