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Can Homeopathic Treatment Slow Prostate Cancer Growth?

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Background: Homeopathy is a complementary medicine widely used around the world. Despite extensive use of homeopathy for cancer and other serious conditions with reported success, clinical and laboratory research has been equivocal, and no rigorous research has been done on cancer. In 1999, the US National Cancer Institute evaluated the effects of homeopathic treatment of cancer from a clinic in India and has released a request for protocols to conduct further research into this treatment. Therefore, the authors conducted a series of carefully controlled laboratory studies evaluating the effects of commonly used homeopathic remedies in cell and animal models of prostate cancer. **Study Design:** One hundred male Copenhagen rats were randomly assigned to either treatment or control groups after inoculation with prostate tumor cells. **Methods:** Prostate tumor cells DU-145, LNCaP,

and MAT-LyLu were exposed to 5 homeopathic remedies. Male Copenhagen rats were injected with MAT-LyLu cells and exposed to the same homeopathic remedies for 5 weeks. In vitro outcomes included tumor cell viability and apoptosis gene expression. In vivo outcomes included tumor incidence, volume, weight, total mortality, proliferating cell nuclear antigen (PCNA) expression, apoptotic cell death (terminal deoxynucleotidyl transferase mediated d-uridine triphosphate nick end labeling), and gene expression (rAPO-multiprobe). Results: There were no effects on cell viability or gene expression in 3 prostate cell lines with any remedies at any exposure time. There was a 23% reduction in tumor incidence ($P < .0001$), and for animals with tumors, there was a 38% reduction in tumor volume in homeopathy-treated animals versus controls ($P < .02$). At time of killing, experimental animals with tumors had a 13% lower average tumor weight ($P < .05$). Tumors in these treated animals showed a 19% increase in apoptotic cell death ($P < .05$) and reduced PCNA-positive cells. Conclusions: The findings indicate that selected homeopathic remedies for the present study have no direct cellular anticancer effects but appear to significantly slow the progression of cancer and reduce cancer incidence and mortality in Copenhagen rats injected with MAT-LyLu prostate cancer cells.

Key Words: homeopathy * prostate * cancer * rat * CAM * complementary medicine

Effects of Homeopathic Preparations on Human Prostate Cancer Growth in Cellular and Animal Models

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The use of dietary supplements for various ailments enjoys unprecedented popularity. As part of this trend, *Sabal serrulata* (saw palmetto) constitutes the complementary treatment of choice with regard to prostate health. In homeopathy, *Sabal serrulata* is commonly prescribed for prostate problems ranging from benign prostatic hyperplasia to prostate cancer. The authors' work assessed the antiproliferative effects of homeopathic preparations of *Sabal serrulata*, *Thuja occidentalis*, and *Conium maculatum*, in vivo, on nude mouse xenografts, and in vitro, on PC-3 and DU-145 human prostate cancer as well as MDA-MB-231 human breast cancer cell lines. Treatment with *Sabal serrulata* in vitro resulted in a 33% decrease of PC-3 cell proliferation at 72 hours and a 23% reduction of DU-145 cell proliferation at 24 hours ($P < .01$). The difference in reduction is likely due to the specific doubling time of each cell line. No effect was observed on MDA-MB-231 human breast cancer cells. *Thuja occidentalis* and *Conium maculatum* did not have any effect on human prostate cancer cell proliferation. In vivo, prostate tumor xenograft size was significantly reduced in *Sabal serrulata*-treated mice compared to untreated controls ($P = .012$). No effect was observed on breast tumor growth. Our study clearly demonstrates a biologic response to homeopathic treatment as manifested by cell proliferation and tumor growth. This biologic effect was (i) significantly stronger to *Sabal serrulata* than to controls and (ii) specific to human prostate cancer. *Sabal serrulata* should thus be further investigated as a specific homeopathic remedy for prostate pathology.

Key Words: prostate cancer * *Sabal serrulata* * *Thuja occidentalis* * *Conium maculatum* * human prostate * breast cancer cell lines * nude mice