Breast Cancer Res Treat. 2002 Nov;76(1):1-10.

Influence of Cimicifuga racemosa on the proliferation of estrogen receptor-positive human breast cancer cells.

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Hormone replacement therapy, which is a common menopausal treatment, is contraindicated in women with breast cancers due to concerns regarding the potential for breast cell proliferation. As such, there is a need for alternative methods for treating menopausal symptoms. To determine the influence of one such alternative, black cohosh (Cimicifuga racemosa [CR]), on estrogen-dependent mammary cancers, we conducted an in vitro investigation of the effect of an isopropanolic CR-extract on the proliferation of estrogen receptor-positive breast cancer cells. The experiments were performed using the human breast adenocarcinoma (MCF-7) cell test system, an established in vitro model for estrogen-dependent tumors. The influence of CR-extract on the proliferation of the MCF-7 cells was determined by measuring the incorporation of radioactively labeled thymidine. Under estrogen-deprived conditions, the CR-extract (10(-3)-10(-5) dilutions) significantly inhibited MCF-7 cell proliferation. Additionally, application of the CR-extract inhibited estrogen-induced proliferation of MCF-7 cells. Moreover, the proliferation-inhibiting effect of tamoxifen was enhanced by the CR-extract. Such data that suggest a non-estrogenic, or estrogen-antagonistic effect of CR on human breast cancer cells lead to the conclusion that CR treatment may be a safe, natural remedy for menopausal symptoms in breast cancer.

PMID: 12408370 [PubMed - indexed for MEDLINE]