

Black Seed Oil has been shown to fight Cancer

Anti-angiogenic activity of nigella sativa plant extract in cancer therapy.

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ABSTRACT: Nigella sativa [NS], or 'black seed', an annual herb belonging to the family Ranunculaceae, has strong immunomodulatory and interferon-like activity. We confirm that our extract of NS inhibits cancer and endothelial cell progression, decreases the production of the angiogenic protein-fibroblastic growth factor (FGF) made by tumor cells, and inhibits growth factor for endothelial cells. FGF-1 and FGF-2 are both localized to myoepithelial and to epithelial cells. FGF is an autocrine growth factor developed in our immortalized human mammary epithelial cells. FGF-2, present in aggressive breast cancer, was suppressed by NS. In addition, our breast cancer cell line contains FGF 1-4. Tumor growth is angiogenesis dependent and neo-vascularization is a crucial determinant of the metastatic potential of the tumor. Formed vessels in tumors are hyper-permeable to plasma protein, due to gaps in the endothelial lining. These vascular abnormalities could facilitate entry of the tumor cells into the circulation. We studied breast cancer, prostate cancer and melanoma cells for acidic fibroblast growth factor which we isolated and suppressed by NS. We attempted to recapitulate early angiogenic evidence in vitro by developing a model of endothelial growth migration and extracellular matrix interaction. Our in vitro assay revealed that stimulated endothelial cells could produce degradative proteinase and invade the extracellular matrix similarly to tumor cells. Moreover, this model system indicated that a fine-tuned balance between proteinase and proteinase inhibitor regulates vascular morphogenesis and invasion. Migrating endothelial cells produce Type 4 collagenase (member of the matrix metalloproteinase family) and serineproteinase. We demonstrated that specific inhibitors of Type 4 collagenase, general metalloproteinase inhibitors and serineproteinase inhibitors blocked endothelial cell invasion of the extracellular matrix. These inhibitors blocked tumor cell invasion in the same assay. NS was compared with these factors and shown to have the same action. The endothelial cells in culture were reverted to a non-angiogenic state when the angiogenic stimulus is neutralized by NS. The activity of NS blocked the tumor growth and dissemination in metastasis and have remarkable promises for clinical use.

