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Theme: "Science for Better Health"

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(This serves as an Invitation)

17. STUDIES ON BIO-NORMALIZER'S ANTI-CANCER PROPERTIES

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Bio-Normalizer (BN), a semi-natural fermented health food has free radical regulatory and immunomodulatory functions. A comprehensive battery of experiments was done to determine its applicability in cancer therapy. Its effects on human monocyte and rat peritoneal macrophage was initially measured *in vitro*. BN was found to enhance the formation of tumor necrosis factor (TNF)- α by the phagocytes aside from stimulating intra-and extracellular superoxide production. BN's cytotoxic activity against human cancer cell lines like laryngeal carcinoma (Hep-2), bronchioalveolar adenocarcinoma (SLNI-52), lung adenocarcinoma (A549) and cervical epitheloid carcinoma (HeLa) was evaluated using tetrazolium-based colorimetric assay. BN demonstrated cell killing effect on all the cells tested with Hep-2 being the most sensitive. The effect of BN on cisplatin's and melphalan's antiproliferative activity on human ovarian carcinoma cell was also investigated *in vitro*. BN was proven to inhibit cisplatin's but not melphalan's cytostatic activity. Finally, a clinical trial on patients with acute lympho- and myeloleukemias undergoing therapeutic irradiation was conducted. Results showed that BN administration protected them from the neurologic symptoms of irradiation. It increased the superoxide dismutase (SOD) activity and blood cell level of reduced glutathione (GSH). Based on these findings, BN could be recommended as a supportive care in cancer therapy.

Keywords: bio-normalizer, anti-cancer, cancer therapy