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Effectiveness of cannabinoids and endocannabinoids on cancer treatment

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Cannabinoids are chemical compounds that have recently been added to the therapeutic armamentarium of cancer both for their palliative effects (inhibition of chemotherapy-induced nausea and vomiting, stimulation of appetite) but also as antitumor drugs. Δ^9-Tetrahydrocannabinol (the primary psychoactive component of cannabis plant), cannabinol and cannabidiol are the most studied natural cannabinoids. They can induce cancer cell apoptosis and reduce neoangiogenesis as well as tumor cell invasiveness and metastasis in various cancer types such as gliomas, breast, prostate, skin, lung, thyroid, gastric, colon, hepatocellular, pancreatic, lymphoma and leukemia as has been shown in experimental studies. Furthemore, the endogenous signalling system of endo cannabinoids which share common receptors and manifest similar actions with cannabinoids is also a promising field for the treatment of cancer. They include anandamide and 2-arachidonoylglycerol, which are the most studied but also 2-Arachidonoyl Glyceryl Ether (noladin ether), N-Arachidonoyl Dopamine and O-Arachidonoyl Ethanolamine (virodhamine). Besides their antitumorigenic action, the lack of severe adverse side effects of cannabinoids and endocannabinoids compared to the generalized toxic actions of conventional chemotherapeutics which makes them promising candidates for the future treatment of various cancer types in human and clinical trials should be planned towards that direction.

Biography

Panagiotis Zogopoulos is a resident of Neurosurgery at the General Hospital of Nikaia-Piraeus "Agios Panteleimon", Athens, Greece. His ongoing research is in the field of drugs and their interaction with human brain and cerebral vessels. Several of his papers have been published in reputed peer-review journals and he has presented various researches in International Conferences.

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