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The Therapeutic Potential of Cannabidiol in Treatment of Head and Neck Cancer

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ABSTRACT

Tongue tumor is a type of head and neck cancer that begins to spread in the cells of the tongue. There are several types of cancer that can affect the tongue. However, the most common and prevalent type of tongue cancer is squamous cell carcinoma (SCC). Tongue tumors are a form of head and neck cancer within the oral cavity. The most common and prevalent type of tongue cancer is squamous cell carcinoma (SCC). SCC are thin, flat cells that are found on the surfaces of the skin and tongue, in the lining of the digestive and respiratory tracts, mouth, throat, thyroid, and larynx. Cannabidiol (CBD) has been a sensational topic for researchers as many recent studies have shown that it has anti-inflammatory and immunomodulatory properties, which correlates with the studies of tumor suppression. CBD is isolated from the *Cannabis sativa* plants, such as hemp and marijuana. Studies show CBD maybe able to help in the treatment for some type of cancer. For example, CBD may be beneficial for cancer patients and their cancer-related side effects. Also, CBD showed effect on decreasing cancerous cells in tumors. With increasing number of cases with head and neck cancer worldwide, it is unavoidable to do a research study on their interactions. Therefore, under the guidance of Dr. Baban, I will be conducting a research study that focuses on the therapeutic potential of Cannabidiol in the treatment of tongue tumor. The research experiment will use tumor murine cell lines to generate the experimental model of tongue tumor in the mice and analyze how Cannabidiol (CBD) affects the tongue tumor development. The cell line for mice experimental model has been developed at the department of Oral Biology and Dx Sciences, Dental College of Georgia (DCG) at Augusta University. The goal of this

research is to explore the role of inhaling CBD in mice to provide a new therapeutic option to target and decrease the tongue tumors. We will be assessing imaging, Flow Cytometry, and Immunohistochemistry to examine and evaluate the consequences of CBD. All the protocols in our research studies were relied on and approved by IACUC at Augusta university.

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