

PubMed

U.S. National Library of Medicine
National Institutes of Health

Display Settings: Abstract



[Cancer Epidemiol Biomarkers Prev](#). 2010 Sep 14. [Epub ahead of print]

Do Steroid Hormones Play a Role in the Etiology of Glioma?

Kabat GC, Etgen AM, Rohan TE.

Authors' Affiliations: Departments of 1Epidemiology and Population Health, and 2Neuroscience, Psychiatry and Behavioral Sciences, and Pediatrics, Albert Einstein College of Medicine, Bronx, New York.

Abstract

Gliomas are the most common type of primary malignant brain tumor and have a very poor prognosis. Little is known, however, about the etiology of these tumors. Evidence from a number of sources suggests that endogenous steroid hormones may play a role in the development of gliomas. First, the descriptive epidemiology of glioma suggests a relative protection of females compared with males, particularly during the premenopausal years. Second, some gliomas and glioblastomas express estrogen receptors (ER), especially ER β , as well as aromatase, the enzyme responsible for the conversion of testosterone to estradiol, and possibly other steroid hormone receptors. Third, experimental studies indicate that glioblastomas transplanted into animals grow at a slower rate in females compared with males. Finally, experimental studies show that estradiol, 2-methoxyestradiol, and a number of selective estrogen receptor modulators inhibit proliferation of gliomas and induce cell death. These hormonal agonists and antagonists may act either through classical steroid hormone receptors or independently of such receptors. In view of these findings, further clinical, experimental, and epidemiologic studies are needed to elucidate the role of steroid hormone agonists and antagonists in the development and proliferation of glioma. If hormonal pathways are involved in gliomagenesis, this could eventually lead to the design of preventive strategies. *Cancer Epidemiol Biomarkers Prev*; 19(10); OF1-7. ©2010 AACR.

PMID: 20841389 [PubMed - as supplied by publisher]

[LinkOut - more resources](#)