J Cancer Sci Ther 2014, 6:10
http://dx.doi.org/10.4172/1948-5956.S1.035

OMICS Group Conferences
Accelerating Scientific Discovery

4th World Congress on
Cancer Science & Therapy
October 20-22, 2014 DoubleTree by Hilton Hotel Chicago-North Shore Conference Center, USA

Oxytocin ımproves follicular reserve in a cisplatin-ınduced gonadotoxicity model in rats

Oytun Erbas
Gaziosman Pasa University, Turkey

Cis-Diamminedichloroplatinum (II)(cisplatin, CP) is an antitumor agent effective for treating various human cancers of the breast, brain, head and neck, stomach, lung, bladder, testis, and ovary. Its anti-tumor activity is attributed mainly to its ability to form platination products in the nuclear DNA. However, repetitive treatment with CP is associated with numerous side effects such as nephrotoxicity, neurotoxicity, and reproductive toxicity. In both animal and human studies, CP has been shown to cause ovarian injury, leading to ovarian dysfunction, changes in the estrous cycle, increased follicular apoptosis, and a reduction in the number of anti-Mullerian hormone-(AMH) secreting follicles. Oxytocin (OT), a nonapeptide produced in the paraventricular and supraoptic nuclei in the hypothalamus, is essentially associated with uterine contraction during parturition and milk ejection reflex during lactation. OT receptors (OTR) have been demonstrated not only in the uterine and myoepithelial tissues, but also in other tissues, including heart, thymus, kidney, pancreas, adipose tissue, and ovaries. Accumulating evidence suggests that OT exerts its cytoprotective effects via antioxidative, antiapoptotic, and anti-inflammatory pathways. Recently, we have shown its beneficial effects against sepsis-induced polyneuropathy, pentylenetetrazol-induced seizures, and rotenone-induced Parkinson's disease model in rats. Although several studies have demonstrated the protective role of OT in various types of tissue injury, there is still lack of data with regard to beneficial effects of this peptide in chemotherapy-induced ovarian gonadotoxicity. Therefore, we conducted the present study to explore whether OT has protective effects on follicle reserve in a CP-induced gonadotoxicity model in rats by evaluating histopathological alterations, plasma AMH levels, and ovary malondialdehyde (MDA) and glutathione (GSH) levels as markers of oxidative stress.

Biography

Oytun Erbas has studied neuroprotective agents, oxytocin, metabolic syndrome and inflammation for 5 years, during which time he has authored 28 research papers. He especially investigates effects of chemotherapotic agent's on over; chemopreventive and cytoprotective affects of oxytocin. Also, he has already shown oxytocin's anti-inflammatuary (via decrease in levels of VEGF, TNF, MCP-1) and anti-convulsive nature. He is a member of the Federation of European Neuroscience Societies (FENS), International Brain Research Organization (IBRO) and Society for Neuroscience (SfN).

Genistein in prevention and treatment of cancer

Omer Kucuk
Emory University, USA

Genistein is a soy isoflavone with multiple biological activities. It has potent anti-oxidant and anti-inflammatory activities which may be important in cancer prevention as oxidative stress and inflammation has been linked to the etiology of many cancers. In addition, it may inhibit hormonal carcinogenesis through its effects on estrogen and androgen receptor signaling. Recent studies also show that genistein may alter gene expression by exerting epigenetic effects through demethylation of promoter regions of tumor suppressor genes such as BRCA1 and acetylation of histones. Preclinical studies in animal models demonstrated significant activity of genistein in the prevention and treatment of genitourinary tumors. Genistein may also synergize with other soy isoflavones such as daidzein and its metabolite equol.

Biography

Omer Kucuk has focused on soy isoflavones, lycopene and other botanical and nutritional compounds as cancer preventive and therapeutic agents. He has authored more than 170 peer-reviewed articles. He has served on the editorial boards for *Cancer Epidemiology, Biomarkers and Prevention*, *Cancer Epidemiology*, and *Journal of Cancer Prevention*. He is a member of the *Board of Directors of Society for Integrative Oncology*, and he has served on numerous scientific grant proposal review committees for the NIH and Department of Veterans Affairs.