Gynecological Tumors

The pathogenesis of cancer is a complex process, whose occurrence and development involve multiple pathways and numerous genetic alterations such as gene mutations, amplifications and chromosomal translocations or rearrangements. Gynecological malignant tumors exhibit very heterogeneity including various histological types with different molecular characteristics, genetic risk factors and clinical behaviors. Inhibition of the oncogenic pathways is currently under clinical trials for the therapy of gynecological malignant tumors. Detection of several molecular biomarkers in the tumors of the female genital tract could provide more information about the underlying mechanisms of cancer proliferation, invasion, persistence, metastasization and recurrence. Ovarian carcinoma is one of the deadly causes of gynecological cancer worldwide because the disease in advanced-stage consistently relapse despite surgical resection and chemotherapy combination. In patients with endometrial carcinoma, the clinicians should take into consideration multiple factors, which may affect therapeutic options in order to determine the appropriate therapeutic regimens to avoid over- or under-treatment. Various tumor-suppressor genes, oncogenes and tumor growth factors apart from high-risk HPV infection are involved in cervical carcinogenesis. The prognosis of patients with advanced stage cervical carcinoma remains poor despite treatment schedules with combination of radiotherapy and chemotherapy. Actually, one of the causes of cervical cancer relapse is the high levels of radiation during radiotherapy. Therefore there is an urgent need to discover and identify several anticancer potential molecules for development of effective novel targeted therapies in order to suppress cell growth and metastasis of gynecological malignant tumors.

The goal of this special issue is to discover further the mechanisms of tumorogenesis in human uterus, ovaries, fallopian tubes, vulva and vagina on cell proliferation, survival and failure to undergo an appropriate apoptosis. Also, the aim of this special issue is to publish both original articles and comprehensive reviews about the potential association between the expression of molecular tumor biomarkers and the clinicopathological characteristics of patients with gynecological malignant tumors, their treatment options and prognosis. Furthermore, this special issue will address the environmental, genetic and cellular mechanisms of common benign gynecological tumors including uterine leiomyomas and endometriomas and the specific gene therapy protocols, especially for women who want to preserve their fertility.

Guest Editor(s):

Dr. Michail Varras  

mnvarras@otenet.gr  

Obstetrics and Gynecology Department, “Elena Venizelou” General Maternity State Hospital, Greece