Frontiers in Bioscience Landmark

Special Issue

Advances in Neuroendocrine Carcinoma Research

Guest Editor

Dr. Sazan Rasul

Department of Biomedical Imaging and Image-guided Therapy, Division of Nuclear Medicine, Medical University of Vienna, Vienna, Austria

sazan.rasul@meduniwien.ac.at

Message from the Guest Editor

Dear Colleagues,

Neuroendocrine tumors (NETs) are a group of tumors that originate from cells of the endocrine and nervous systems. They are characterized by the secretion of various amines and polypeptide hormones that are responsible for the clinical symptoms of this disease. Although NETs arise most commonly in the intestine, pancreas and lungs, other organs such as the pituitary and thyroid, breast, uterus, prostate and colon may also be affected. Based on the features of tumor grade and histological cell proliferation using the Ki-67 index, the World Health Organization has classified NETs into three main categories: well-differentiated NETs with benign, uncertain behavior; well-differentiated NETs with low-grade malignant behavior; and poorly differentiated NETs or carcinomas. While most NETs are sporadic, they can also occur as part of several inherited familial syndromes such as multiple endocrine neoplasia type 1 (MEN1) and type 2 (MEN2).

There have been intensive studies of the hormones secreted by NETs, as well as potential markers such as chromogranin A, urine 5-hydroxyindoleacetic acid, neuron-specific enolase, synaptophysin, N-terminally truncated variant of Hsp70, CDX2, and neuroendocrine secretory protein-55. The diagnostic and treatment options of NETs patients have been dramatically improved by morphological imaging with computed tomography scans, magnetic resonance imaging, sonography and endoscopy, molecular imaging using Gallium-68 positron emission tomography/computed tomography (PET/CT), and OctreoScan targeting somatostatin receptors which are highly expressed in NETs. PET using fluorine-18 fluorodeoxyglucose also plays a crucial role in visualizing NETs that grow more aggressively and exhibit increased glycolytic metabolism.

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For this special issue, I look forward to receiving your valuable experimental, preclinical and clinical contributions that reflect your highly regarded experience in the field of NETs and neuroendocrine carcinoma.

Dr. Sazan Rasul

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Contact us: Front.Biosci.Landmark@fbscience.com

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