An update on the diagnosis and management of gastroenteropancreatic neuroendocrine tumors

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Several developments on the diagnosis and management of gastroenteropancreatic neuroendocrine tumors (GEP-NETs) [pancreatic neuroendocrine tumors (PNETs) and gastrointestinal neuroendocrine tumors (GI-NETs)] have recently occurred in Japan. For GEP-NETs diagnosis and treatment, grading and correct histological diagnosis according to the WHO 2010 classification is important. Regarding the histological diagnosis, the advent of endoscopic ultrasonography-guided fine needle aspiration (EUS-FNA) has enabled correct pathological diagnosis and suitable treatment for the affected tissue. Furthermore, EUS-FNA has also facilitates the assessment of the presence or absence of gene mutations. In addition, patients with PNETs who have a well-differentiated neuroendocrine tumor (NET) showing a Ki-67 index of higher than 20% according to the WHO 2010 classification, have also been identified, and their responses to treatment were found to be different from those of patients with poorly-differentiated neuroendocrine carcinoma (NEC). Therefore, the concept of NET G3 was proposed and WHO criteria has been revised in 2017 regarding with PNETs (PNENs). Additionally, somatostatin type 2 receptor is expressed in several cases of NET, and somatostatin receptor scintigraphy (111In-octreoscan) has also been approved in Japan. Finally, regarding the treatment strategy for GEP-NETs, the management of liver metastasis is important. The advent of novel molecular-targeted agents has dramatically improved the prognosis of advanced GEP-NETs. Further, the efficacy and safety of lanreotide, somatostatin analogue, indicated its usefulness as a treatment option for Japanese NET patients. Multimodality therapy that accounts for the tumor stage, degree of tumor differentiation, tumor volume, and speed of tumor growth is required.