The role of serum chromogranin A in gastroenteropancreatic neuroendocrine tumor

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Gastroenteropancreatic neuroendocrine tumor (GEP-NET) is the second most prevalent malignancy in the gastrointestinal tract. The prevalence rate of GEP-NET is two-fold higher than that of pancreatic cancer in the United States, and has increased by approximately 500% over the past 30 years. This increase might partially be explained by improvements in diagnosis and clinical awareness. Lack of clarity about nomenclature and cell differentiation in pathologic specimens, which can range from poorly differentiated carcinoma to well-differentiated tumors, make diagnosis of GEP-NET difficult. GEP-NET also has a wide spectrum of clinical presentations, which range from indolence to tumor-producing peptide-related symptoms such as flushing or diarrhea.

An accurate diagnosis of GEP-NET is important because the tumors have diverse behavior, the tumors can be treated with a range of regimens, and predicted tumor responses are markedly different from those for exocrine carcinoma in the gastrointestinal tract.

Classic biomarkers such as CEA and CA19-9 are widely used to detect recurrence during follow-up of digestive exocrine carcinoma after surgery or to evaluate therapeutic responses, and their significance in GEP-NET is unremarkable

Chromogranin A (CgA) is a glycoprotein that belongs to the granin family, a principal component of dense-core granules in neuroendocrine cells. Neuroendocrine cells co-secrete CgA and hormones during the secretory granule exocytotic process. Accordingly, CgA levels have been used to indicate neuroendocrine cell activity. Although circulatory CgA levels have been claimed to be a useful biomarker for the assessment of GEP-NET, evaluation of tumor status, and therapeutic responses, plasma CgA levels are not widely used for the clinical assessment of patients with GEP-NET in non-Western countries. This talk aimed to elucidate the significance of plasma CgA levels for GEP-NET in terms of disease status and treatment responses in Taiwan.