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Application of Chromogranin A and Chromogranin B in Advanced Neuroendocrine Tumors

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BACKGROUND: Chromogranin A (CgA) is a general marker for neuroendocrine tumors (NETs), which is affected by many factors and has limited diagnostic value for rectal NET. Chromogranin B (CgB) can be used as a tumor marker for NETs, but its research is less, and its diagnostic role needs to be further elucidated.

METHODS: Patients were recruited in China-Japan Friendship Hospital from May 2018 to March 2019. Serum CgA and CgB were detected by ELISA.

RESULTS: 15 non-tumor patients and 10 patients with advanced rectal NETs, 31 patients with advanced pancreatic NETs were enrolled in this study. Compared to those in non-tumor patients, serum CgA in patients with advanced rectal NETs were not significant elevated (p=0.462), while serum CgA in patients with advanced pancreatic NETs were elevated (p=0.05). Serum CgB were significantly higher in patients with advanced rectal and pancreatic NETs than those in non-tumor patients (p=0.037; p=0.012, respectively). In patients with advanced rectal NETs, serum CgA were not elevated significantly, while serum CgB were elevated in 90% of patients. The levels of serum CgA and CgB in the advanced pancreatic NETs were significantly higher than those in the non-tumor group. The area under the curve (AUC) of serum CgA and CgB were 0.673 (p=0.059), 0.733 (p=0.011) respectively, the cutoff value of CgB was 632.03 pg/ml(sensitivity:83%; specificity:60%). The AUC of serum CgA & CgB was 0.93 (95% CI: 0.843, 1.000; $p < 0.001$).

CONCLUSION: Compared with serum CgA, serum CgB has a better diagnostic value and could be used as an effective tumor biomarker. Combination of serum CgA and CgB may help to improve the diagnosis of advanced rectal and pancreatic NETs.