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Commentary Open Access

The Potential Diagnostic Value of Serum Cpa4 Level for Pancreatic Cancer

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Commentary

Pancreatic cancer is one of the most lethal human cancers with a 5-year survival rate of about 4-6% [1]. Early detection could significantly achieve the best clinical outcomes. Although CA199 is the gold-standard serum biomarker for monitoring and evaluating prognosis of pancreatic cancer, it is proved to be neither sensitive nor specific [2]. Therefore, it is necessary to find other biomarkers for early diagnosis. Carboxy peptidase family (CPA1, CPA2, and CPB) act in the degradation of dietary proteins in the digestive tract, but many other members including CPA4 are also involved in different functions except for catabolism [3]. CPA4 was originally found in a screen of mRNAs up-regulated by sodium butyrate-induced differentiation of prostate cancer cells, and was closely associated with cancer aggressiveness [4,5]. Until now, no previous studies have examined the level and clinical significance in pancreatic cancer. In this paper, Sun et al. detected the CPA4 levels in pancreatic cancer samples and studied its clinical significance as a predictive biomarker [6]. The investigators firstly found that CPA4 level was significantly elevated in pancreatic cancer tissues as well as serum samples, and was closely associated with lymph node metastasis and advanced clinical stage. The result also revealed that the level of CPA4 in pancreatic cancer serum sample was significantly elevated in cases whose expression was also high. Then, they measured CPA4 concentration in pancreatic cancer serum samples including 100 cancer patients and 50 healthy ones. The authors showed that serum levels of CPA4 in patients with pancreatic cancer were significantly greater than those of the healthy group. Further analysis showed that a gradual increase in serum levels of CPA4 at different stages of pancreatic cancer was observed. ROC curves demonstrated that the best cut-off value of CPA4 for distinguishing between pancreatic cancer patients and controls was 0.3 ng/mL, with a sensitivity and specificity of 61% and 90%, respectively. The approximate area under the ROC curve assessing serum CPA4 as a diagnostic tool for the detection of pancreatic cancer against normal controls was 0.748, which was superior to that of CA199. It is possible that combinations of CPA4 and CA199 can improve diagnostic efficacy compared with a single marker, but this conclusion should be further validated in a large samples in the future. The findings revealed that CPA4 can be used as a potential novel serodiagnostic marker for human pancreatic cancer.

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