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A Pilot Study on the Immunohistochemical Expression of Chromogranin and/or Synaptophysin in Moderate to Poorly Differentiated Gastroenteropancreatic Carcinomas

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Background: Recent advances in specific treatment for neuroendocrine tumors (NET) prompted us to reinvestigate the old phenomenon of neuroendocrine differentiation in carcinomas of the GI tract which has previously been shown to carry no prognostic significance. We studied the immunohisotchemical expressions of chromogranin and synaptophysin in a group of ordinary moderate to poorly differentiated adenocarcinomas of the gastrointestinal tract including the pancreas.

Materials & Methods: A total of 100 cases of moderate to poorly differentiated adenocarcinomas of the stomach (8), colon and rectum (83), pancreas (8) and duodenum (1) were identified and tumor tissues were retrieved for immunohistochemical staining for chromogranin and synaptophysin.

Results: 15 of the 100 cases (15%) of adenocarcinoma of the GI tract (colon x12, stomach x1 and duodenum x1) or pancreas (x1) showed focal evidence of neuroendocrine differentiation based on immunohistochemical staining. All these 15 cases were focally positive for synaptophysin and 3 cases (3%) were positive for both synaptophysin and chromogranin.

Conclusions: Synaptophysin seems to be a more sensitive neuroendocrine marker. The expression of neuroendocrine markers in 15% of cancers that would otherwise be classified as moderate to poorly differentiated adenocarcinoma raises the question whether the neuroendocrine component in these carcinomas could show response to specific treatment for NET. Further clinical trials may be targeted to this group of patients to see if they can benefit from the specific drug treatment for their NET component.

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