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Titel des Beitrags: Cytokeratins 7 and 20 immunoexpression profile in goblet cell and classical carcinoids of appendix.

Abstract: Goblet cell carcinoid (GCC) of the vermiform appendix is an uncommon neoplasm and its histogenesis is controversial. Whether GCC represents a morphological variant of classical appendiceal carcinoid or a mucin-producing adenocarcinoma is still conjectural. Little is known about the immunohistochemical expression of cytokeratins 7 (CK7) and 20 (CK20) in appendiceal neuroendocrine tumors. In this study, we compared the expression of CK7 and CK20 in 17 cases of appendiceal GCC and 25 cases of classical carcinoid. The tumors were also evaluated for Ki-67 proliferation index, mitotic activity, tumor necrosis, extracellular pools of mucin, obvious intestinal type adenocarcinomatous foci, angiolymphatic permeation, perineural/neural infiltration, and the depth of invasion of the appendix wall. Mesoappendiceal extension was present in 14 of 17 (82.3%) cases of GCC, whereas angiolymphatic and perineural/intraaneural involvement were found in 10 of 17 (58.8%) and 14 of 17 (82.3%) cases, respectively. The mitotic count ranged from 0 per 10 high power fields to 6 per 10 high power fields, with an average of 1.4 per 10 high power fields. Necrosis was not seen in any case and pools of extravasated mucin were present in 5 of 17 (29.4%) cases. Immunohistochemically, all 17 (100%) of GCC exhibited strong and diffuse immunopositivity for CK20, whereas expression of CK7 was present in 12
cases (70.5%), ranging from 5 to 50% of tumor cells being labeled. The Ki-67 labeling index ranged from 0 to 75% and showed no correlation to mitotic activity, angiolymphatic invasion or perineural/intraneural permeation. On the other hand, 25 cases of classical carcinoid tumors were consistently negative for CK7; however, 4 cases (16%) showed immunolabeling for CK20 in 25-50% of the tumor cells. The Ki-67 labeling index in classical carcinoids ranged from 0 to 5%. This study shows that in addition to the morphological differences, GCC (CK7/CK20-positive) and classical carcinoid (CK7/CK20-negative) differ in their expression of CK7 and CK20. In addition, GCC shows the same CK7/CK20 immunoeexpression as colorectal adenocarcinoma. Goblet cell carcinoid should be regarded as a crypt cell or an amphicrine carcinoma rather than a variant of carcinoid tumor, a lesion that has benign connotations.