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Abstract:

Objective. Differentiating between adenoid cystic carcinomas (ACCs), polymorphous low-grade adenocarcinomas (PLGAs), and the monomorphic adenomas (including canalicular adenomas, trabecular adenomas, and basal cell adenomas) can present a diagnostic challenge, especially when examining tissue obtained from small incisional or fragmented biopsies. Recent studies have revealed that overexpression of the tyrosine kinase receptor protein c-kit occurs in a narrow subset of malignant neoplasms, including gastrointestinal stromal tumors, myeloid leukemias, seminomas, and ACCs. C-kit reportedly is not expressed in PLGAs. We compared the expression of the c-kit antigen in the malignant salivary gland neoplasms ACC and PLGA with its expression in salivary gland monomorphic adenoma (including canalicular adenoma and basal cell adenoma). Study design. Formalin-fixed paraffin-embedded sections of 49 salivary gland neoplasms (17 monomorphic

adenomas, 17 PLGAs, and 15 ACCs) accessioned between 1989 and 2002 were retrieved from the files of the Department of Pathology, Long Island Jewish Medical Center, and were stained with an anti-c-kit polyclonal antibody. Results. C-kit reactivity was uniformly positive in the cytoplasm of luminal neoplastic cells in ACCs (15/15, 100%). Positive reactivity was also identified in the majority of PLGAs (16/17, 94%), with at least 25% of the tumor cells being positive. Similar reactivity was seen in monomorphic adenomas (16/17, 94%). Conclusions. In contrast to previous reports, we find that c-kit expression was not restricted to ACC but was expressed in all 3 tumor types evaluated (ACC, PLGA, and monomorphic adenoma). Therefore, c-kit does not appear to be a useful marker for distinguishing between either ACC and PLGA in equivocal cases, or in benign and malignant salivary gland neoplasms.

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