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EDITORIAL

Histologic subtyping of ampullary carcinoma for targeted therapy

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Carcinomas of the ampulla of Vater, or ampullary carcinomas, are a rare form of gastrointestinal tract cancer in Korea. Of the many histologic subtypes of ampullary carcinomas, the vast majority are tubular adenocarcinomas of the intestinal type, pancreatobiliary type, or mixed type. There are no well-established adjuvant chemotherapy protocols for treating advanced-stage ampullary cancer, and most of the currently used chemotherapeutic regimens are either extrapolated from pancreatic, biliary, and colorectal cancers or derived from retrospective studies from high-volume institutions [1].

In this issue of the *Journal of Pathology and Translational Medicine*, Kumari et al. [2] report the whole-exome sequencing results of ampullary carcinomas. Their observations confirmed the commonly mutated genes identified by next-generation sequencing of ampullary carcinomas, which included *KRAS*, *TP53*, *APC*, *ELF3*, *SMAD4*, *CTNN1B*, *MUC4*, *ERBB2*, and *CDKN2A* [3-6]. The authors also found that the mutation patterns of several genes were different according to the histologic subtype: *KRAS*, *TP53*, and *CDH10* mutations were more frequently found in the pancreatobiliary type, which shares mutations commonly observed in pancreatic ductal adenocarcinomas. In contrast, *APC*, *ACVR2A*, *SOX9*, and *EPHA6* genes were more frequently mutated in the intestinal type ampullary carcinomas, which were commonly mutated in colorectal cancers [3-5]. This suggests that gemcitabine-based regimens could be particularly useful in patients with pancreatobiliary type ampullary carcinomas, and 5-fluorouracil–based regimens could be beneficial for those with intestinal type ampullary carcinomas. Therefore, providing information regarding the histologic subtypes in surgical pathologic reports could be helpful for the selection of chemotherapeutic regimens in patients with surgically resected ampullary carcinomas.

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Ethics Statement

Not applicable.

Availability of Data and Material

Data sharing not applicable to this article as no datasets were generated or analyzed during the study.

Code Availability

Not applicable.

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Conflicts of Interest

The authors declare that they have no potential conflicts of interest.

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