論 文 内 容 要 旨

※ 整理番号		（ふりがな） 氏名（自署）		印
論文題目	Carcinoembryonic antigen level in the pancreatic juice is effective in malignancy diagnosis and prediction of future malignant transformation of intraductal papillary mucinous neoplasm of the pancreas（膵 IPMN の悪性診断と将来的な悪性化予測における膵液中 CEA 値の有用性）			

論文内容要旨

（研究の目的）
 Intraductal papillary mucinous neoplasm（IPMN）presents a wide spectrum of atypia ranging from low-grade dysplasia（LGD）to invasive carcinoma. Studies concerning CEA level in the pancreatic juice in IPMN have reported that a CEA level in the pancreatic juice of >110 ng/ml suggests malignancy. However, only few such reports exist. Moreover, there are no reports regarding the usefulness of CEA level in the pancreatic juice in predicting future malignant transformation of IPMN.
 The present study aimed to determine the ability of diagnosing malignancy and predicting malignant transformation in patients with IPMN using carcinoembryonic antigen（CEA）level in the pancreatic juice.

（方法）
 We enrolled patients with IPMN who underwent endoscopic retrograde pancreatography（ERP）between 2002 and 2018. We examined the ability of diagnosing malignancy in 63 patients who underwent surgery（surgical group）. Furthermore, we examined the value of predicting malignant transformation in 52 patients who underwent follow-up for over 1 year after ERP（follow-up group）.

（結果）
 In the surgical group, the overall sensitivity and specificity of CEA level（≧ 97 ng/ml）in the pancreatic juice for diagnosing malignancy were 45% and 100%, respectively. The specificity was excellent for all IPMN types; however, the sensitivity was highest in main duct type, followed by mixed type and branch duct type.

備 考
　1　※印の欄には記入しないこと。
　2　論文題目が外国語の場合は，カッコを付し和訳を付記すること。
　3　論文題目が日本語の場合は，カッコを付し英訳を付記すること。
　4　論文内容要旨は，（研究の目的），（方法），（結果），（考察），（結論）の順に
　　日本語（２，０００字程度）もしくは英語（半角５，０００字程度）でまとめ，タイプ等
　　で印字すること。　　（文字数を記載してください。）

論文内容要旨 （続紙）

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In the follow-up group, malignant transformation was observed in four patients (7.7%) during the follow-up, and the median time until malignant transformation was 58 months. High CEA level in the pancreatic juice demonstrated a statistically significant difference in multivariate analysis and was found to be an independent predictor of malignant transformation (hazard ratio, 17; P = 0.02). The cumulative malignant transformation rate was significantly higher in the high CEA group than that in the low CEA group (5-year cumulative malignant transformation rates, 69% vs. 0%, P < 0.001)

（考察）

In the present study, we examined the value of CEA level in the pancreatic juice for diagnosing malignancy in the surgical group and for predicting future malignant transformation in the follow-up group.

In the previous reports on preoperative diagnosis of IPMN, Hirono et al. noted that the measurement of CEA level in the pancreatic juice is a useful diagnostic method to distinguish malignant from benign IPMNs. When the cut-off value was set to 110 ng/ml, they diagnosed malignancy with a sensitivity of 67% and specificity of 96%. In the current study, the cut-off value and high specificity were consistent with those reported by a previous study.

To the best of our knowledge, there are no reports on the association between CEA level in the pancreatic juice and of future malignant transformation of IPMN. In reports examining the natural history of BD-IPMN, the malignant transformation rate during the follow-up observation ranged from 1%- 6.3%. Moreover, mural nodules and tumor extension within MD at the initial examination are associated with malignant transformation of the lesion. Furthermore, in mixed type and MD type, the malignant transformation rate during follow-up is 13%- 46%. Additionally, the size of MD dilatation and diffuse MD dilatation are associated with malignant transformation.

In the present study, we examined predictors of malignant transformation in all IPMN types. High CEA level in the pancreatic juice was the only independent predictor of malignant transformation.

（結論）

CEA level in the pancreatic juice is useful not only in diagnosing malignancy but also in predicting future malignant transformations in IPMN patients receiving follow-up.

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