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LETTER TO THE EDITOR

Radiological predictors of malignant transformation of IPMNs: importance of the predictive model validation

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(The Editors do not hold themselves responsible for opinions expressed by correspondents)

To the Editor,

With great interest, we read the recent article¹ “Intraductal papillary mucinous neoplasms (IPMNs) of the pancreas: radiological predictors of malignant transformation and the introduction of bile duct dilation to current guidelines” (by Strauss et al¹). The authors developed a multistep multivariate binary logistic regression prediction model to investigate the independent predictive factors associated with the radiological predictors of malignant transformation. We would like to thank the authors for this highly useful work.

In the present study, model predictors included invasive growth, arterial and venous infiltration, solid component, lymphadenopathy, bile duct dilation, septum formation, parenchymal atrophy, IPMN type, location, main pancreatic duct diameter and gender. Multivariate logistic regression analysis confirmed that¹ solid components (Odds

ratio (OR): 3.84; $p < 0.05$), parenchymal atrophy with main pancreatic duct dilation 5–9 mm (OR: 5.1; $p < 0.05$) and common bile duct dilation (OR: 31.26; $p < 0.05$) were predictors of malignant transformation of IPMNs. However, to further explore clinical utility, validation is an important issue in the scientific development of prediction models towards wide application.² The strength point of this research is its sample size ($N = 384$) that enabled us to split it for assessing the construct validity. As a consequence, we suggest that the research might be improved by using split-sample development and validation for assessing the independent predictive factors associated with radiological predictors of malignant transformation. Samples might be randomly allocated *via* a computer-generated randomization sequence into a training set and a test set.³ Finally, the C-index (the larger the C-index, the better is the predictability of a predictive model) and calibration curve were derived on the basis of the logistic regression analysis.

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