Wound Congress & Clinical Dermatology Congress 2018: Development and multicentre validation of a prognostic model to predict resectability of pancreatic head malignancy - K. Gerke - UK University Medical Centre Schleswig - Holstein

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Statement of the Problem: At the time of planned pancreatoduodenectomy patients frequently undergo exploratory laparotomy without resection, leading to delayed systemic therapy. This study aimed to develop and validate a prognostic model for the preoperative prediction of resectability of pancreatic head tumors.

Methodology & Theoretical Orientation: This was a retrospective study of patients undergoing attempted resection for confirmed malignant tumors of the pancreatic head in a university hospital in Hannover, Germany. The prognostic value of patient and tumor characteristics was investigated in a multivariable logistic regression model. External validation was performed using data from two other centers.

Findings: Some 109 patients were included in the development cohort, with 51 and 175 patients in the two validation cohorts. Eighty patients (73.4%) in the development cohort underwent resection, and 37 (73%) and 141 (80.6%) in the validation cohorts. The main reasons for performing no resection in the development cohort were: Local invasion of vasculature or arterial abutment (15 patients, 52%), and liver (12, 41%), peritoneal (8, 28%) and aortocaval lymph node (6, 21%) metastases. The final model contained the following variables: Time to surgery (OR 0.99, 95 percent c.i. 0.98 to 0.99), carbohydrate antigen 19-9 concentration (OR 0.99, 0.99 to 0.99), jaundice (OR 4.45, 1.21 to 16.36) and back pain (OR 0.02, 0.00 to 0.22), with an area under the receiver operating characteristic curve (AUROC) of 0.918 in the development cohort.

AUROC values were 0.813 and 0.761 in the validation cohorts. The positive predictive value of the final model for prediction of resectability was 98.0 per cent in the development cohort and 91.7 and 94.7 per cent in the two external validation cohorts.

Conclusions: For preoperative prediction of the likelihood of respectability of pancreatic head tumors, this validated model is a valuable addition to CT findings.