

Number of acinar cells at the pancreatic stump predicts pancreatic fistula after pancreaticoduodenectomy

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Abstrak

ABSTRACT

Purpose: To establish if the number of pancreatic acinar cells at the pancreatic cut end is a predictor of postoperative pancreatic fistula (POPF).

Methods: The number of acinar cells was assessed histologically in 121 consecutive patients who underwent pancreaticoduodenectomy (PD) between April, 2012 and July, 2016.

Results: POPF developed in 23 of the 121 patients. Univariate analysis revealed that male sex, long operating time, high volume of blood loss, soft remnant pancreas, large pancreatic duct, and the number of pancreatic acinar cells were significantly associated with POPF. Multivariate analysis revealed that male sex ($p=0.022$) and the number of pancreatic acinar cells ($p<0.0001$) were independently associated with POPF. In the receiver operating characteristic (ROC) curve analysis, the area under curve was 0.83895 when the cut off value of the number of pancreatic acinar cells to predict POPF was 890. Sensitivity and specificity of the number of pancreatic acinar cells were 82.6 and 77.6%, respectively.

Conclusions: A large number of pancreatic acinar cells at the cut end of the stump is predictive of POPF after PD. Although POPF is associated with multiple factors and the number of acinar cells is only one of these, our study is the first to confirm this common intuition of surgeons, which has not been assessed definitively before.