

# Peran SMAD4 sebagai Bagian dari Panel Imunohistokimia untuk Membedakan Adenokarsinoma Duktal Pankreas dan Adenokarsinoma Ampula Vateri serta Hubungannya dengan Faktor Prognostik Histopatologi yang Lebih Agresif = The Role of SMAD4 as part of Immunohistochemical Panel to Differentiate Pancreatic Adenocarcinoma and Ampullary Adenocarcinoma and to Predict a More Aggressive Histopathological Prognostic Factors

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## Abstrak

Latar Belakang: Adenokarsinoma duktal pankreas dan adenokarsinoma ampula vateri, tanpa melihat gambaran episentrum tumor, sulit dibedakan secara histopatologi. Gejala klinis tidak spesifik sehingga kasus yang ditemukan seringkali tidak memenuhi kriteria resectable. Gambaran radiologi juga tidak spesifik, padahal terapi dan prognosis keduanya berbeda. Adenokarsinoma duktal pankreas memiliki angka kesintasan rendah dibanding adenokarsinoma ampula vateri. Penentuan asal tumor, berasal dari duktal pankreas atau ampula vateri, sangat penting. SMAD4 diduga dapat menjadi salah satu panel diagnostik imunohistokimia. Penelitian ini dilakukan dengan melihat perbandingan ekspresi SMAD4 di adenokarsinoma ampula vateri dan adenokarsinoma duktal pankreas.

Tujuan: Mengetahui perbandingan ekspresi SMAD4 pada adenokarsinoma duktal pankreas dan adenokarsinoma ampula vateri.

Metode: Penelitian analitik observasional, desain potong lintang pada sediaan reseksi adenokarsinoma duktal pankreas dan adenokarsinoma ampula vateri, periode Januari 2013 hingga September 2021.

Pengambilan sampel dilakukan secara total sampling. Adenokarsinoma ampula vateri dengan subtype pankreatobilier dieksklusi. Pemeriksaan imunohistokimia menggunakan antibodi primer SMAD4. Data imunohistokimia dianalisis untuk melihat adakah perbedaan ekspresi SMAD4 pada adenokarsinoma di ampula vateri dan adenokarsinoma duktal pankreas.

Hasil: Loss of SMAD4 didapatkan pada 12 kasus (60 %) adenokarsinoma duktal pankreas dan 8 kasus (44,4 %) adenokarsinoma ampula vateri. Tidak didapatkan hubungan loss of SMAD4 pada adenokarsinoma duktal pankreas dan adenokarsinoma ampula vateri ( $p=0,338$ ).

Kesimpulan: Tidak terdapat hubungan bermakna loss of SMAD4 pada adenokarsinoma duktal pankreas dan adenokarsinoma ampula vateri. Namun terdapat trend loss of SMAD4 lebih tinggi pada adenokarsinoma duktal pankreas dibanding adenokarsinoma ampula vateri subtype intestinal dan mixed type dominansi intestinal.

.....ackground: Differentiating pancreatic ductal adenocarcinoma and ampullary adenocarcinoma without knowing the epicenter of the tumor is difficult. The clinical symptoms are non-specific. The cases found usually do not meet the operable criteria. Radiological examination is also non-specific, although the treatment and prognosis are different. Pancreatic ductal adenocarcinoma has lower survival rate than ampullary adenocarcinoma. It is very important to determine the origin of the tumor from pancreatic ductal or ampulla of Vater. SMAD4 is expected to be one of immunohistochemical diagnostic panel for the pancreatic ductal adenocarcinoma. This study compares the SMAD4 expression in pancreatic ductal

adenocarcinoma and ampullary adenocarcinoma.

Objective: Knowing the comparison of SMAD4 expression in pancreatic ductal adenocarcinoma and ampullary adenocarcinoma.

Methods: Observational analytical study with cross sectional design, total sampling was performed on the resection specimens of pancreatic ductal adenocarcinoma and ampullary adenocarcinoma, period January 2013 to December 2021. Ampullary adenocarcinoma with pancreatobiliary subtype was excluded.

Immunohistochemical examination using SMAD4 primary antibody. Immunohistochemical data will be analyzed to see SMAD4 expression difference between pancreatic ductal adenocarcinoma and ampullary adenocarcinoma.

Results: Loss of SMAD4 was found in 12 cases (66,7 %) of pancreatic ductal adenocarcinoma and 6 cases (44,4 %) of ampullary adenocarcinoma. There was no significant relationship between loss of SMAD4 in pancreatic ductal adenocarcinoma and ampullary adenocarcinoma ( $p=0,338$ ).

Conclusions: There was no significant relationship between loss of SMAD4 in pancreatic ductal adenocarcinoma and adenocarcinoma of the ampulla of vater. However, there was a trend of higher SMAD4 loss in pancreatic ductal adenocarcinoma than ampullary vater adenocarcinoma of intestinal subtype and mixed type with intestinal dominance.