

A new combination of endoscopic ultrasonography and DNA diagnosis using pancreatic juice for the early detection of pancreatic cancer

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A new combination of endoscopic ultrasonography and DNA diagnosis using pancreatic juice for the early detection of pancreatic cancer

Research Project

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06670530

Research Category

Grant-in-Aid for General Scientific Research (C)

Allocation Type

Single-year Grants

Research Field

Gastroenterology

Research Institution

Kanazawa University

Principal Investigator

OKAI Takashi Cancer Res Inst Internal Medicine Associate prof, がん研究所, 助教授 (60160660)

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1994 - 1995

Keywords

Small pancreatic cancer / Inflammatory pancreatic mass / Endoscopic ultrasonography / Pancreatic juice / DNA diagnosis / Polymerase chain reaction (PCR) / K-ras point mutation / p53 point mutation

Research Abstract

The combination of endoscopic ultrasonography and DNA diagnosis using pancreatic juice for the detection of small pancreatic cancer was evaluated. The patients with upper abdominal pain, abnormal laboratory data or images on the pancreas, or worsening of diabetic control were enrolled in this study. When the findings of a small pancreatic mass or dilated pancreatic duct were detected by endoscopic ultrasonography, the pure pancreatic juice was collected under a duodenofiberscope for the analyzes of k-ras point mutation at codon 12. The pancreatic cancers less than 2 cm in a diameter were clearly visualized as round hypoechoic tumors with irregular margin. The pancreatic ducts were abruptly dilated caudal to the tumors.

Although inflammatory pancreatic masses were generally visualized as square-shaped hypoechoic area without compression or encasement of the neighboring pancreatic ducts, the differentiation from small pancreatic cancer was not always complete, particularly when the tumor was round and the size was less than 1 cm. The incidence of k-ras point mutation analyzed by PCR-RFLP method was 78% (29/37) in patients with pancreatic cancer and 9% (5/53) in those with chronic pancreatitis. The correlation between the incidence of k-ras mutation and tumor size/location were not seen. These results suggest that the combination of endoscopic ultrasonography and DNA diagnosis using pancreatic juice is useful and promising to the early detection of pancreatic cancer.

Research Products (10 results)

All Other

All Publications (10 results)

- [Publications] Watanabe H,et al:"Detection of K-ras point mutations at codon 12 in pure pancreatic juice for the diagnosis of pancreatic cancer by PCR-RFLP analysis." *Pancreas*. 12. 18-24 (1996) ▼
- [Publications] Watanabe H,et al:"Detection of K-ras point mutation at codon 12 in pancreatic juice for the diagnosis of pancreatic cancer by hybridization protection assay (HPA) : a simple method for the determination of the types of point mutations." *Jap J Cancer Res*. in press. ▼
- [Publications] 岡井 高、他:"小膵癌の超音波内視鏡診断." *消化器科*. 21. 17-25 (1995) ▼
- [Publications] 渡辺弘之、他:"臨床検査および膵液中k-ras癌遺伝子点突然変異の検索からみた腫瘤形成性膵炎." *腹部画像診断*. 15. 552-563 (1995) ▼
- [Publications] 渡辺弘之、他:"小膵癌診断における膵液中腫瘍マーカーの測定とk-ras点突然変異の検索." *消化器内視鏡*. 7. 1137-1146 (1995) ▼
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