

# Heterotopic autotransplantation of segmental pancreas

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# 1986 Fiscal Year Final Research Report Summary

## Heterotopic autotransplantation of segmental pancreas

Research Project

### Project/Area Number

60570621

### Research Category

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

### Allocation Type

Single-year Grants

### Research Field

Digestive surgery

### Research Institution

Kanazawa University (1986)  
福井医科大学 (1985)

### Principal Investigator

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### Project Period (FY)

1985 - 1986

### Keywords

Pancreatic transplantation / Diabetes mellitus / Total pancreatectomy / Chronic pancreatitis / Insulin / 膵癌

### Research Abstract

The aim of the present study was to evaluate the function and morphological change of heterotopic autotransplanted pancreas which was denervated and secreted its hormones into the systemic circulation instead of the portal system. A 62 years old patient had undergone total pancreatectomy for pancreas cancer and autotransplantation of the distal half of pancreas by anastomosis of the splenic vessels to the branches of femoral vessels. The autotransplanted pancreas was normal in histology. Postoperatively, his carbohydrate metabolism was maintained normally and IV-GTT test showed normal blood glucose levels as well as that done preoperatively, though IRI response was impaired with absence of an early secretory peak. Also the pancreatic exocrine secretion from the external fistula did not decrease in volume and in amylase concentration. However, when he died at the 6th postoperative month, the pancreas consisted of inter- and intra-lobular fibrosis, acinar atrophy, and hypertrophic islets. Another patient, 50 years old man with unresectable pancreatic cancer,

excreted a 30-92g of urine sugar daily. In order to improve his impaired carbohydrate metabolism, the distal a third of pancreas with severe chronic pancreatitis was resected and autotransplanted at his thigh. Following the operation, his daily urinary glucose output decreased to 0-10g during the first post-operative two weeks and then disappeared. However, IV-GTT was not improved. Experimental studies demonstrated that peripheral insulin levels after glucose load in the dogs which received heterotopic autotransplantation of the left limb of pancreas following total pancreatectomy were higher, though not significantly in statistics, than those in the control in which the right limb of pancreas was removed. However, it remains to be unresolved whether denervation may be responsible for the higher level of peripheral insulin in the animals with autotransplanted pancreas. Based on these observations, it is concluded that heterotopic autotransplanted pancreas may offer some advantage in the carbohydrate control over the non-transplanted one.▲ Less

## Research Products (4 results)

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All Other

All Publications (4 results)

[Publications] 三輪晃一: 日本消化器外科学会雑誌. 17(10). 1891-1895 (1984) ▼

[Publications] MIWA, KOICHI et. al.: "A case of heterotopic autotransplantation of residual distal pancreas following pancreatoduodenectomy." The Japanese Journal of Gastroenterological Surgery.17(10). 1891-1895 (1984) ▼

[Publications] MIWA, Koichi et. al.: "The function and morphology of heterotopic autotransplanted pancreas." unpublished. ▼

[Publications] MIWA, Koichi et. al.: "A case report----Improvement of diabetes mellitus following heterotopic autotransplantation of distal pancreas." ▼

URL: [https://kaken.nii.ac.jp/report/KAKENHI-PROJECT-60570621/605706211986kenkyu\\_seika\\_hokoku\\_](https://kaken.nii.ac.jp/report/KAKENHI-PROJECT-60570621/605706211986kenkyu_seika_hokoku_)

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