



# Clinicopathological characteristics and risk factors for recurrence of well-differentiated Pancreatic Neuroendocrine tumors after radical surgery

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Huangying Tan

## Abstract

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- **Introduction:** Pancreatic neuroendocrine tumors (PanNETs) usually have good prognosis, however, there are patients experienced the recurrence of the neoplasm after curative resection. **Aim:** To explore recurrence-related risk factors by analyzing clinicopathological data of panNETs after radical surgery.
- **Patients and methods:** Clinical and pathological data of 47 patients with well-differentiated PanNETs at China-Japan Friendship Hospital from Jan. 2011 to March. 2016 were analyzed retrospectively. Univariate and multivariate analysis of risk factors of PanNETs for postoperative recurrence were conducted.
- **Results:** For the 47 patients with well-differentiated PanNETs, there were 17 cases (36.2%) in the pancreatic head, 17 (36.2%) in the body and tail, 9 (19.1%) in the tail and 4 (8.5%) in the body. The median tumor size was 3.65 (IQR 2-5.5) cm. 14 cases (29.8%) are NET G1 and 33 cases (70.2%) are NET G2. In the clinical stage, IA :9 (19.1%), IB: 14 (29.8%), IIA: 7 (14.9%), IIB: 14 (29.8%), 3 cases unknown. There are 17 patients presented postoperative recurrence. Univariate analysis showed that TNM staging, Ki67 index, vascular tumor thrombus, margin status and regional stage tumors are related to the recurrence of patients with PanNETs (P <0.05). The result of multivariate analysis shows that Ki67 positive index  $\geq 10\%$  is the independent risk factor for postoperative recurrence of PanNETs (p <0.05).
- **Conclusion:** The Ki-67 positive index  $\geq 10\%$  is the independent risk factors of recurrence for well-differentiated PanNETs after radical surgery, maybe close surveillance and adjuvant therapy for these patients are needed.



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## Introduction

Pancreatic neuroendocrine tumors (PanNETs) usually have good prognosis, however, there are patients experienced the recurrence of the neoplasm after curative resection.



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## Methods

Clinical and pathological data of 47 patients with well-differentiated PanNETs at China-Japan Friendship Hospital from Jan. 2011 to March. 2016 were analyzed retrospectively. Univariate and multivariate analysis of risk factors of PanNETs for postoperative recurrence were conducted.



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## Results

For the 47 patients with well-differentiated PanNETs, there were 17 cases (36.2%) in the pancreatic head, 17 (36.2%) in the body and tail, 9 (19.1%) in the tail and 4 (8.5%) in the body. The median tumor size was 3.65 (IQR 2-5.5) cm. 14 cases (29.8%) are NET G1 and 33 cases (70.2%) are NET G2. In the clinical stage, IA :9 (19.1%), IB: 14 (29.8%), IIA: 7 (14.9%), IIB: 14 (29.8%), 3 cases unknown. There are 17 patients presented postoperative recurrence. Univariate analysis showed that TNM staging, Ki67 index, vascular tumor thrombus, margin status and regional stage tumors are related to the recurrence of patients with PanNETs (P <0.05). The result of multivariate analysis shows that Ki67 positive index  $\geq 10\%$  is the independent risk factor for postoperative recurrence of PanNETs (p <0.05).

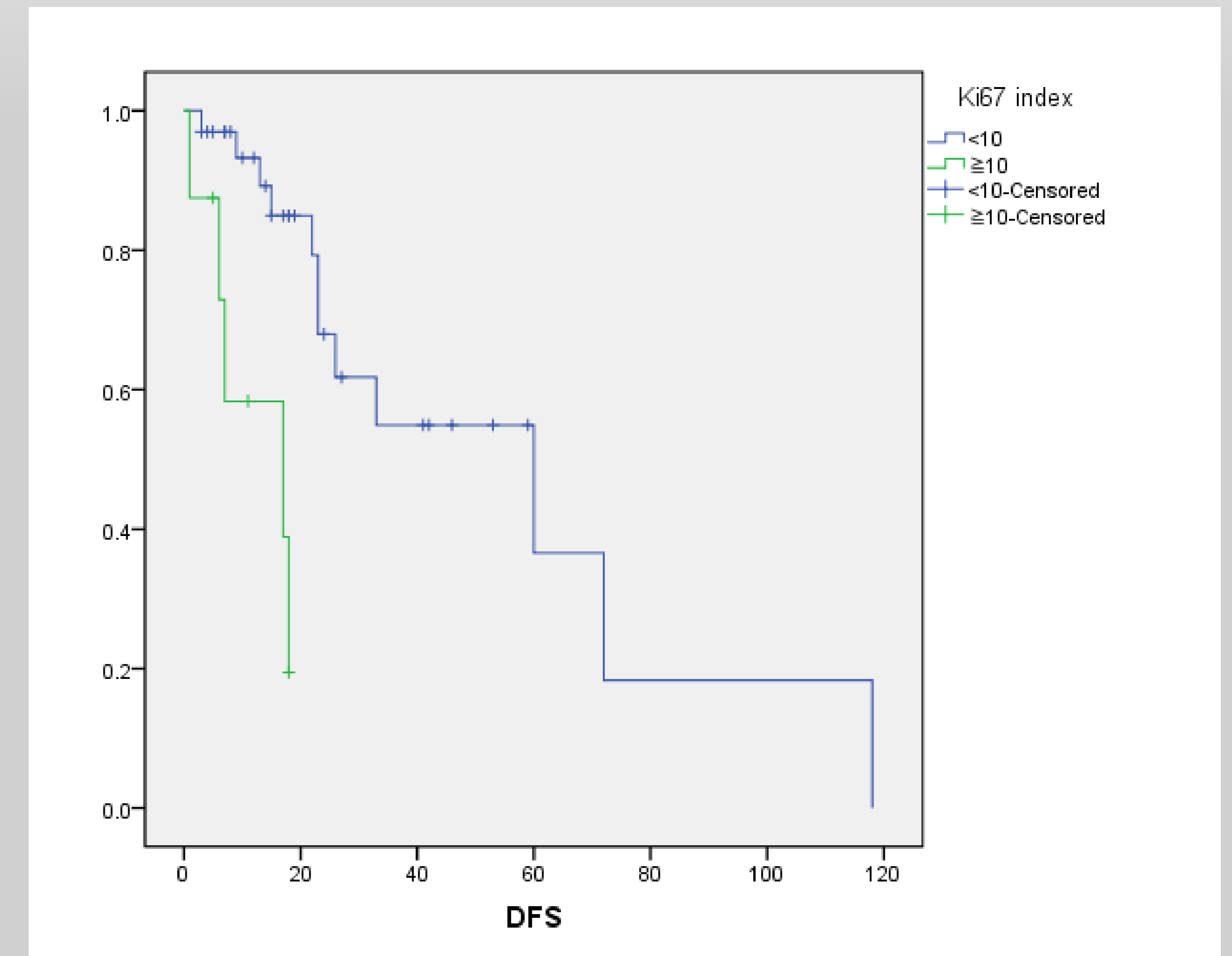


Figure 1. Kaplan-Meier curves for patients by Ki67 index



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## Conclusion

The Ki-67 positive index  $\geq 10\%$  is the independent risk factors of recurrence for well-differentiated PanNETs after radical surgery, maybe close surveillance and adjuvant therapy for these patients are needed.