

The Changing Presentation of Pancreatic Neuroendocrine Tumors: Results of 344 Resected Patients over 30 years

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Background: We sought to determine how the presentation of patients undergoing resection for pancreatic neuroendocrine tumors (PanNETs) has changed over the last 30 years.

Methods: A retrospective review of a prospectively collected database was carried out between 1983-2012 at a single institution. Patients undergoing pancreatic resection for PanNETs were included. Tumor grade (intermediate and low) was assigned based on the WHO classification.

Results: A total of 344 patients were resected with a median followup of 43 months. Tumor size decreased steadily over the 30 year period while the number of resections increased (Figure). In the last ten years the percentage of incidentally identified tumors has increased significantly compared to previous years (49% vs 24%, $p < 0.001$), but there was no difference in recurrence-free survival between patients with incidentally and non-incidentally identified tumors ($p = 0.2$). Furthermore, among all patients, recurrence-free survival was not different in patients from the last ten years as compared to the first two decades (five-year survival 72% vs 67%, $p = 0.4$). The percent of patients with lymph node metastases in resected specimens (18%) and intermediate grade tumors (13%) has remained constant over time ($p = 0.2$). Tumor size was not different between patients with intermediate grade and low grade tumors (3.9 vs 3.6 cm, $p = 0.3$).

Conclusions: Despite more patients with smaller PanNETs undergoing resection, survival and the percent of patients with lymph node metastases and intermediate grade tumors has remained constant. This suggests that resection in select patients with small PanNETs remains warranted.

