

C27

Stage I Non-Functioning Neuroendocrine Tumors of the Pancreas: Surgery or Surveillance?

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Background: An increasing number of non-functioning, early-stage pancreatic neuroendocrine tumors are detected incidentally as patients undergo radiographic procedures for unrelated indications. Endoscopic sonography with fine-needle aspiration now enables non-operative biopsy of tumors smaller than 1cm in diameter. It is unclear whether the risks of partial pancreatectomy or enucleation exceed the risks of surveillance in patients with these neoplasms.

Methods: We performed a database search of patients with pancreatic neuroendocrine tumors treated at the H. Lee Moffitt Cancer Center in order to evaluate outcomes of patients with stage I tumors who did not undergo surgical resection.

Results: Four patients were identified who elected to undergo surveillance of their stage I tumors instead of surgical resection. All had been diagnosed via endoscopic ultrasound-guided fine-needle aspiration. The tumor sizes were 7mm, 12mm, 13mm and 15mm at initial diagnosis. Three tumors were cystic and one was solid. Three were located in the body of the pancreas and one in the tail. In two patients, the Ki-67 index was measured and was <1%. With a median of follow-up of two years, none of the patients experienced tumor growth. All three patients with cystic tumors experienced shrinkage of their tumors following the diagnostic needle aspiration and did not experience subsequent increase in size (table 1).

Conclusions: Surveillance may be an appropriate strategy for management of incidentally discovered, stage I pancreatic neuroendocrine tumors.

Table 1: Baseline and current sizes of pancreatic neuroendocrine tumor

	Baseline Tumor Size	Current Tumor Size
Patient 1	7mm (cystic)	undetectable
Patient 2	12mm (solid)	12mm
Patient 3	23mm (cystic)	15mm
Patient 4	22mm (cystic)	13mm