VIPomas are rare pancreatic endocrine tumors associated with a well defined clinical syndrome characterized by watery diarrhea, hypokalemia, and metabolic acidosis. The objective of this study was to review a single institution’s experience with VIPomas, as well as to review the English literature. A retrospective review of the Johns Hopkins pancreatic data base revealed four cases of VIPoma, with three patients (75%) being male. All patients presented with watery diarrhea, hypokalemia, hypercalcemia, and acidosis. Computed tomography (CT) revealed the primary pancreatic tumor in all patients. Seventy-five percent of tumors were located in the tail of the pancreas. One tumor involved the entire pancreas. CT and/or octreotide radionuclide scans identified hepatic metastasis in three (75%) patients. Mean serum VIP levels were 683 pg/ml. All patients underwent resection of the pancreatic primary tumor. Two (50%) patients also had simultaneous liver resections. All patients had evidence of malignancy as defined by the presence of metastatic lymph nodes and/or hepatic metastases. Two (50%) patients had complete resolution of symptoms after surgical resection. One patient required radioablation of liver metastases and adjuvant octreotide therapy for control of symptoms. One patient died of progressive metastatic disease 96 months after surgery, while the other three remain alive. Extended, meaningful survival can be achieved for VIPoma patients, combining an aggressive surgical approach with additional strategies for treatment of unresected disease.