

## INTRAOPERATIVE RADIATION THERAPY FOR RESECTED PANCREATIC CARCINOMA

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**Objective:** To determine the local control, symptom management, and survival of patients with pancreatic cancer treated with intraoperative radiation therapy (IORT) combined with external beam radiation therapy (EBRT) following radical surgery.

**Methods:** Forty- three patients were treated with pancreatic resection and intraoperative radiation for pancreatic cancer between January 1989 and 2003 at Thomas Jefferson University Hospital. All patients had a macroscopic complete resection of the tumor. IORT was delivered to the resection bed using a cylindrical application cone to a mean dosage of 15 Gy (range,10- 20 Gy) by a 6- 22 MeV electron beam. Patient demographics, morbidity and mortality, and survival were determined by retrospective chart review.

**Results:** Forty- three patients underwent pancreatic resection and IORT. There were 21 females and 22 males, with a median age of 61.2 years. Thirty-five patients were treated by pancreaticoduodenectomy, 3 had total pancreatectomy and 5 had distal pancreatectomy. Overall median survival was 23 months and disease free median survival was 15.5 months. The 1-, 2-, and 3- year actuarial survival rates were 71.6%, 43.7%, and 16.0%, respectively (calculated from the date of surgery). Operative mortality was 0%. Perioperative morbidity was observed in 25.6% of patients. Local recurrence was noted in 5 patients (11.6%). Distant recurrence occurred in 14 patients (32.6%).

**Conclusions:** IORT is a safe adjunct to surgical resection of pancreatic cancer. It appears to improve local control in resected patients.

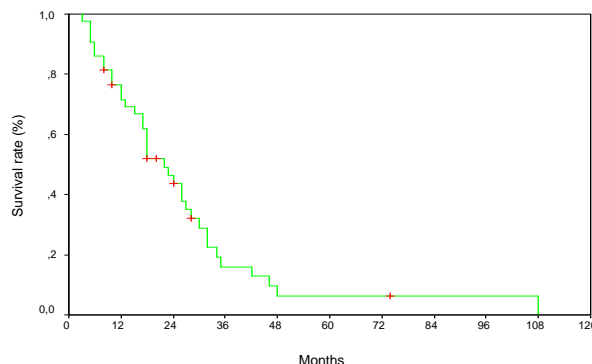


Fig 1. Overall survival of patients completing pancreatic resection and IORT