

PREOPERATIVE CHEMORADIATION AND INTRA-OPERATIVE RADIOTHERAPY FOR PANCREATIC CARCINOMA

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Aims and background: In recent years, preoperative chemoradiation has received growing interest for the treatment of locally advanced pancreatic cancer. In an attempt to improve resectability and disease control, we used preoperative radiation therapy and concomitant 5-fluorouracil in a combined modality therapy protocol. The aim of the study was to evaluate definitive results in terms of toxicity, response and clinical outcome.

Material and methods: Twenty-eight patients with unresectable (cT4, 19 patients) or resectable (cT3, 9 patients) nonmetastatic pancreatic tumors received radiotherapy (39.6 Gy) plus 5-fluorouracil (continuous infusion, days 1-4 at 1000 mg/m²/day). After 4 weeks, patients were evaluated for surgical resection. In 9 resected patients, electron-beam intra-operative radiotherapy (10 Gy) was given before reconstruction. Thereafter, in resected patients, adjuvant chemotherapy was prescribed.

Key words: chemotherapy, combined modality treatment, intra-operative radiotherapy, pancreatic neoplasms, radiotherapy, surgery.

Results: During chemoradiation, 1 patient (3.6%) developed grade 3 acute gastrointestinal toxicity and 2 patients (7.1%) developed grade 3 hematological toxicity. Three of 19 patients with unresectable tumors had tumor downstaging (15.8%). Two patients showed partial response (response rate, 7.1%; 95% CI, 0.2-25.3) and 4 patients (14.3%) had minimal tumor response. Four patients (14.3%) showed progressive disease after chemoradiation. One postoperative death was recorded. The median survival time was 11.3 months (20.5 and 9.0 months in resected and unresected patients, respectively). Only one local failure was recorded in 8 patients resected with negative margins.

Conclusions: Although the response rate is still low, our preliminary results suggest that preoperative 5-fluorouracil chemoradiation is well tolerated and may result in tumor downstaging. Delivery of intra-operative radiotherapy seems to be associated with a low rate of local recurrences.