THE ROLE OF EXTENDED SURGERY IN MALIGNANT PANCREATIC NEUROENDOCRINE TUMORS: A SINGLE-INSTITUTION REVIEW

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Aim: The role of extended surgery in malignant pancreatic neuroendocrine tumors (PNETs) remains an open issue; an optimal surgical concept for advanced PNETs has not been achieved coherently. The objective of this study is to further assess the efficacy of extended resections in treatment of malignant advanced PNETs.

Methods: Data was collected on 42 patients who underwent curative surgery for malignant PNETs from 1995 to 2012. Prognostic factors were analyzed retrospectively, with a focus on the role of extended surgical strategy.

Results: All the 42 patients with malignant PNETs had curative surgery (R0 resection). With a median follow-up of 39.5 months, the disease-specific survival rate was 95.2%, 90.3% and 68.8% at 1, 2 and 5 years, respectively. Parenchyma-sparing surgery was performed in 5 patients (tumor size < 4cm), and the disease-specific survival of these patients was excellent compared to radically surgical counterparts (P = 0.617). Among patients without liver metastases, extended surgery were performed in 7 patients (19%), and these patients showed similar disease-specific survival and disease-free survival to those who had non-extended (P = 0.938; P = 0.565 respectively). Concomitant hepatectomies were accomplished in 6 patients due to liver metastases (14%), which did not achieve similar disease-specific survival to those without liver metastases (P = 0.001). Repeated surgery was done in 3 patients with tumor recurrence, which achieved better overall survival though not statistically significant (P = 0.225).

Conclusions: Parenchyma-sparing surgery may be sufficient in selected malignant PNETs and the tumor size (smaller than 4 cm) is an important selected criteria. Extended surgery for locally advanced malignant PNETs is justified with excellent long-term survival. Though extended surgery for metastatic PNETs does not achieve comparable disease-specific survival in this series, surgical procedures seem to be the only potentially curative treatment for advanced malignant PNETs or recurrent PNETs.

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