

Clinicopathologic characteristics of pancreatic neuroendocrine tumors and relation of somatostatin receptor type 2A to outcomes

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Abstract

BACKGROUND

The impact of somatostatin receptor type 2 (SSTR-2a) expression levels on outcomes in patients with pancreatic neuroendocrine tumors (PNETs) has not been evaluated.

METHODS

Correlations between clinicopathologic characteristics, including SSTR-2a expression and outcomes, were retrospectively studied in 79 patients with pancreatic neuroendocrine tumors (PNETs).

RESULTS

The SSTR-2a score was 0 in 27% of patients, 1 in 24% of patients, 3 in 30% of patients, and 4 in 18% of patients. The overall survival rate was 87% at 1 year, 77% at 3 years, and 71% at 5 years. On univariate analysis, a pancreatic tumor that measured ≥ 20 mm in greatest dimension, stage IV disease, vascular invasion, neuroendocrine carcinoma (NEC), and an SSTR-2a score of 0 were associated significantly with poor outcomes. On multivariate analysis, NEC ($P = .000$; hazard ratio, 28.8; 95% confidence interval, 7.502-111.240) and an SSTR-2a score of 0 ($P = .001$; hazard ratio, 3.611; 95% confidence interval, 1.344-9.702) were related independently to poor outcomes.

CONCLUSIONS

The current analysis of prognostic factors in patients with PNETs demonstrated that NEC and an SSTR-2a score of 0 both were significant independent predictors of poor outcomes. The results suggest that the assessment of SSTR-2a may facilitate the selection of treatment regimens and the prediction of outcomes. Because a considerable proportion of patients with NEC have SSTR-2a-positive tumors, further analyses of the usefulness of somatostatin analogues are warranted in patients who have SSTR-2a-positive NEC.