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Evaluating the role of postoperative long-acting somatostatin analogue therapy in patients with metastatic neuroendocrine tumors undergoing surgical debulking

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BACKGROUND

The optimal timing of postoperative somatostatin analogue (SSA) resumption in patients with metastatic gastroenteropancreatic (GEP) neuroendocrine tumors (NETs) after surgical debulking is unknown and varies between institutions. We hypothesized that SSA resumption can be safely deferred post-debulking in select patients.

METHODS

We performed a retrospective cohort study of patients with well-differentiated GEP-NETs with liver metastases who underwent liver debulking, synchronously or metachronously with primary tumor resection at an academic referral center (2019-2023). Clinicopathologic characteristics and progression-free survival (PFS) were compared between patients who resumed SSA within 90 days of surgery and those who did not (never resumed or resumed > 90 postoperative days).

RESULTS

Of 83 patients, 56 (68%) had small bowel NETs, while 27 (32%) had pancreatic NETs. Twenty-seven (33%) resumed SSA within 90 days of debulking. The SSA resumption group had higher frequency of pancreatic NETs (52% vs 23%, p=0.01), extrahepatic metastases (70% vs 36%, p=0.005), and higher Ki-67 index (median 4% vs 2%, p=0.03). SSA resumption was associated with worse PFS (median 13 vs 21 months, p=0.048). Pancreatic location (HR=2.2, p=0.003) and osseous metastases (HR=2.0, p=0.04) were independent predictors of shorter PFS after debulking. Among patients who did not immediately resume SSA, small bowel NETs had longer PFS (median 34 vs 16 months, p=0.02).

CONCLUSIONS

Patients with small bowel NETs without osseous metastases undergoing surgical debulking experience long PFS and might therefore benefit from delaying postoperative SSA resumption. Our findings provide foundational data for a prospective trial.

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