

C-42

Peri-Procedural Management of Patients Undergoing Liver Resection or Embolotherapy for Neuroendocrine Tumor Metastases

Daniel Kwon¹; Claire Mulvey¹; Alan Paciorek¹; Hilary Chan¹; Lingzhong Meng²; Li Zhang¹; Eric Nakakura¹; Nicholas Fidelman¹; Emily Bergsland¹; Katherine Van Loon¹

¹University of California, San Francisco; ²Yale

BACKGROUND: Carcinoid crisis is a life-threatening event caused by release of vasoactive substances from neuroendocrine tumors (NETs). Octreotide is commonly used in the peri-procedural setting as prophylaxis against carcinoid crisis; however, there is no standardized protocol for its use. We describe the peri-procedural management of patients with metastatic NETs who underwent liver-directed procedures at our institution.

METHODS: We identified 79 patients with NETs with hepatic metastases who underwent liver resection/ablation (n=39) or liver embolotherapy (n=40) between 2012-2016. Anesthesia and clinical data were abstracted. Carcinoid crisis was identified by physician documentation. Hemodynamic instability was defined as ≥ 10 minutes of systolic blood pressure < 80 or > 180 mmHg or pulse > 120 BPM. Pearson chi-squared tests were used to test associations with three outcomes: crisis, instability, or none.

RESULTS: Three (4%) patients were documented with carcinoid crisis. Another 21 (27%) developed hemodynamic instability. Of 30 patients who received pre-procedural octreotide, 28 (93%) used long-acting octreotide in the prior month; of these, 1 (3%) developed crisis, and 7 (23%) developed instability. Of 49 patients who received intra-procedural octreotide, 3 (6%) developed crisis,

and 12 (24%) developed instability. Patients who underwent resection/ablation were more likely to experience crisis or instability than those who underwent embolotherapy (41% vs 20%, $p < 0.05$). History of carcinoid syndrome and degree of hepatic involvement were not associated with crisis or instability.

CONCLUSION: Occurrence of documented carcinoid crisis was low in this high-risk population. A significant proportion of patients developed hemodynamic instability, suggesting carcinoid crisis is a spectrum diagnosis and may be clinically under-recognized. Octreotide use was not associated with carcinoid crisis or hemodynamic instability; however, this analysis was limited by our modest sample size at a single institution. Establishment of an objective definition of carcinoid crisis and standardization of peri-procedural use of octreotide for at-risk patients are needed.