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ASO Author Reflections: Role of Preoperative Chemotherapy in the Treatment of Pancreatic Neuroendocrine Liver Metastases.

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Past:

Liver metastases may occur in up to 40% of patients with pancreatic neuroendocrine tumors (pNET).¹ The management of this condition has largely been predicated on surgical resection whenever possible, which is associated with both long-term survival and symptomatic relief.^{2,3} Unlike liver metastases from other malignancies like colorectal cancer for which the role of preoperative systemic therapy is well established even in the case of resectable disease, no such data exists for pancreatic neuroendocrine liver metastases (PNLM). Our group has previously demonstrated the efficacy of a regimen of 5-FU, doxorubicin, and streptozocin (FAS) in the metastatic and locally advanced pNET settings. In the current study, we sought to evaluate the outcomes associated with preoperative FAS in patients with PNLM who underwent hepatectomy.

Present:

The results of our study support a role for neoadjuvant FAS, which was associated with a high response rate on imaging criteria, in patients with PNLM, even those with resectable disease.⁴ Despite more aggressive disease characteristics, patients who were treated with neoadjuvant FAS followed by hepatectomy experienced similar overall (OS) and recurrence-free survival (RFS) when compared to patients who underwent surgery first, with no significant difference in major postoperative complications. When only patients with synchronous PNLM were considered, preoperative FAS was associated with a OS and RFS benefit. Conversely, treatment of patients with potentially resectable PNLM with FAS only was associated with significantly worse survival compared to treatment that included surgery. Taken together, our findings suggest that neoadjuvant FAS can be safely administered before surgery and may have a role to play beyond conversion of unresectable disease, including the potential for improved survival among patients with synchronous disease.

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Future:

Our findings, although limited in their significance by the retrospective nature of our single institutional experience, lay the foundation for a prospective trial in which the role of preoperative FAS can be clearly defined for resectable PNLM. They also highlight the need for a multidisciplinary approach to this challenging clinical scenario for which multimodal treatment sequencing decisions must be weighed carefully. Surgery remains an essential component in the therapeutic approach to the patient with resectable PNLM, but other treatment modalities may be of import as well. In addition, whether and when targeted therapies such as everolimus or sunitinib should be used in the context of resectable PNLM remains ill-defined and may be worth investigating.

References

1. Modlin IM, Lye KD, Kidd M. A 5-decade analysis of 13,715 carcinoid tumors. *Cancer*. 2003;97(4): 934–59. [PubMed: 12569593]
2. Mayo SC, de Jong MC, Bloomston M, et al. Surgery versus intra-arterial therapy for neuroendocrine liver metastasis: a multicenter international analysis. *Ann Surg Oncol*. 2011;18(13):3657–65. [PubMed: 21681380]
3. Saxena A, Chua TC, Perera M, Chu F, Morris DL. Surgical resection of hepatic metastases from neuroendocrine neoplasms: a systematic review. *Surg Oncol*. 2012;21(3):e131–41. [PubMed: 22658833]
4. Cloyd JM, Omichi K, Mizuno T, et al. Preoperative fluorouracil, doxorubicin, and streptozocin for the treatment of pancreatic neuroendocrine liver metastases. *Ann Surg Oncol*. 2018;25(6): 1709–15. [PubMed: 29626307]