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Preliminary Experience with Intra-arterial I-131 MIBG Hepatic Infusion for Progressive Metastatic Low Grade Neuroendocrine Tumors: An Ongoing Work-in- Progress

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Background: I-131 *meta*-iodobenzylguanidine (MIBG) is an established treatment modality for well differentiated neuroendocrine tumors (NETs); however, because of the relatively low tumor radiation dose that can be delivered, it is a palliative treatment modality and objective anatomical tumor response is rare. Of the methods employed to increase delivered tumor dose, intra-arterial (IA) MIBG appears promising; however, only one literature report of this use in a mixed NET population could be found. The aim of this work-in-progress is to evaluate the efficacy of IA MIBG in an ongoing heterogeneous group of NET pts demonstrating progressive disease despite standard therapy.

Methods: From April, 2010 to present, foregut, midgut and hindgut low grade NET patients are being offered IA MIBG for predominant hepatic metastases. 6 patients (5 females, 1 male; mean age, 60.5 yrs) have received a total of 11 hepatic infusions of MIBG. Catheters were placed in the hepatic artery and infusions of 7.4 GBq of I-131 MIBG were given over 30 minutes in a special procedures radiology suite. Clinical, radiographic, and biochemical markers are being followed.

Results: One pt is stable; 3 pts have expired from progressive disease; 2 pts show progressive disease. Catheterization caused no complications. No carcinoid crisis was observed. Mild reversible thrombocytopenia developed in 3 pts. Mild nausea developed in 1 pt. Side effects were no different than noted in a large group of our NET patients receiving IV MIBG therapy.

Conclusions: IA MIBG therapy appears to be a safe alternative to standard IV treatment. Despite the theoretically higher mean tumor uptake from IA MIBG, outcomes do not appear to be better thus far in this small group of NET pts than conventional IV MIBG treatment. A larger group of mixed low grade NET pts are being enrolled to assess any potential benefit of IA MIBG therapy.