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Short Term Response to Systemic I-131 MIBG Therapy in Metastatic Carcinoid Tumors.

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Background: Purpose of study was to analyze short term response (< 2 yrs.) of systemic I-131MIBG therapy in terms of 1.) tumor biomarker response, including pancreastatin and neurokinin A (NKA), 2.) radiographic, and 3.) symptomatic responses in metastatic carcinoid tumor.

Methods: Retrospective chart review was performed in 24 patients who underwent 31 MIBG treatments from June, 2008 through March, 2010. Eligibility: Patients had to show intense uptake of MIBG on diagnostic scans, and had to demonstrate progressive metastatic disease on chemotherapy and/or octreotide. Four patients did not meet criteria and were excluded. Patients were analyzed for pre and post therapy tumor marker response utilizing conventional NET markers as well as pancreastatin and NKA. Radiographic and symptomatic response was evaluated with WHO and RECIST criteria.

Results: A symptomatic response after MIBG therapy was seen in 63% (12 of 19 evaluable patients). Fifteen of 20 patients (75%) had tumor biomarkers measured pre and post MIBG therapy. Among these 15 patients, 47% (7 of 15) had reductions of > 50% in pancreastatin and/or NKA post therapy. Only one of these patients showed progression of disease during the study period. All three patients with rapid rises of pancreastatin and/or NKA during MIBG treatment showed radiographic progression. Radiographic tumor response before and after treatment could be evaluated in 15 of 20 patients. A partial response was documented in only 13% (2 of 15 patients).

Conclusions: 63% of metastatic carcinoid patients improve symptoms after MIBG treatment; only a minority show

radiographic response. Tumor markers decrease in 47% of patients, and suggest a favorable short term outcome. Rising NKA and/or pancreastatin levels during MIBG treatment were associated with rapid progression of disease. Previous studies have followed metastatic carcinoid response to MIBG therapy using 5-HIAA and chromogranin; pancreastatin and NKA appear to be more sensitive and prognostically significant.