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Surgical Exploration is Superior to All Other Modalities for Locating Primary Carcinoid Tumors

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Background: Many patients with carcinoid tumors have liver metastases at diagnosis. However, even when extensive metastases are present, primary carcinoid tumors remain very small and difficult to locate. Recent studies indicate resection of the primary tumor is associated with improved survival rates, prompting extensive searches for these elusive tumors. We hypothesized that surgical exploration is superior to all other techniques for locating them.

Setting: University Hospital

Methods: Records of carcinoid patients with liver metastases at diagnosis in years 2006-2010, in whom a search for the primary tumor was conducted, were retrospectively reviewed. Patients presenting with acute bowel obstruction were excluded. Results of preoperative procedures and surgical explorations were compared for their efficacy at finding primary tumors.

Results: 59 patients were identified. Most primary tumors (81% [n=48]) were not located by preoperative testing. The sensitivities of preoperative colonoscopy (27% [n=22]), CT scan (7.0% [n=57]), and octreoscan (2.0% [n=46]) were low. No tumors were found by MRI (n=6), upper endoscopy (n=22), capsule endoscopy (n=2) or bronchoscopy (n=4). Surgical exploration (76% [n=59]) was the most sensitive method of tumor detection. 65% of successful localizations were laparoscopic. Fourteen tumors remained occult after an average follow up of 13 months with serial CT scans.

Conclusions: Surgical exploration was superior to all other modalities for locating primary tumors. A laparoscopic approach had a high probability of finding occult primary tumors and has the advantage of rapid recovery from negative exploration. Other tests can provide valuable information concerning extent of disease, but

their sensitivity is too low to utilize them for primary tumor localization. Therefore, we recommend surgical exploration as the best method to locate primary carcinoid tumors.