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

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Background

Primary carcinoid tumors remain small and difficult to detect even among patients with bulky hepatic metastases.

Several studies indicate that primary tumor resection in patients with hepatic metastases improves survival.[1-4]

Most examinations used to locate the primary tumor have low yield. The optimal method has not been defined.

Hypothesis

Surgical exploration is superior to all other modalities for locating primary carcinoid tumors.

Primary carcinoid tumors can be detected by laparoscopy.

Methods

Retrospective review of medical records between 2006-2010

Inclusion criteria: carcinoid patients with liver metastases at diagnosis

Exclusion criteria: patients presenting with acute bowel obstruction

Results of preoperative procedures and operative explorations were compared for sensitivity at locating primary tumors.

Diagnostic Procedure	No. of Studies	Primary identified (Sensitivity)
Colonoscopy	22	6 (27%)
CT scan	59	2 (3.4%)
Octreoscan	47	2 (4.3%)
MRI	8	0
Upper endoscopy	23	0
Bronchoscopy	4	0
Total	163	10 (6.1%)

Table 1. Sensitivity of preoperative studies for locating primary carcinoid tumors.

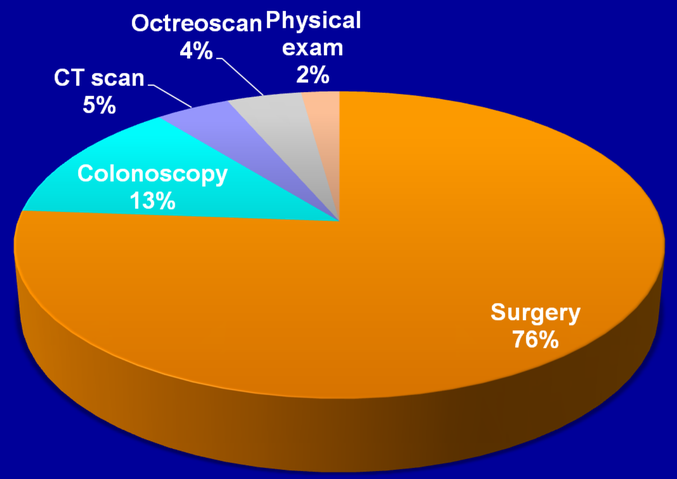

Figure 1. Distribution of successful localizations

Diagnostic Procedure	No. of Procedures	Primary Identified (Sensitivity)
Laparoscopic	42	29 (69%)
Open	7	6 (85%)
Total	49	35 (71%)

Table 2. Sensitivity of surgical exploration for locating occult primary carcinoid tumors.

Results

Sixty patients were identified. 55% were women. The mean age at operation was 61 years. 66% had carcinoid syndrome.

11 tumors were localized preoperatively. The remaining 82% were occult at the time of operation.

Preoperative procedures had poor sensitivity for locating primary tumors as seen in Table 1. Surgery was the most successful method of locating primary tumors (Figure 1, Table 2), finding 77% of all tumors and 71% of occult tumors.

Eight patients whose occult tumors were not found at laparoscopy were opened with a 0% yield.

Conclusions

Surgical exploration is the most sensitive modality used to locate primary carcinoid tumors.

Laparoscopy is sensitive and offers minimal morbidity from negative exploration.

Other localizing tests should be reserved for those with negative exploration.

References

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