

¹¹¹In-pentetreotide and ¹²³I-MIBG for detection and resection of lymph node metastases of a carcinoid not visualized by CT, MRI or FDG-PET

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A patient with a history of a jejunal carcinoid and resection of liver metastases underwent CT, MRI and FDG-PET as well as somatostatin receptor scintigraphy using ¹¹¹In-pentetreotide during follow-up. Octreoscan demonstrated one extrahepatic abdominal lesion with pathologic uptake, while the other imaging modalities failed to show a corresponding abnormality. For verification of this finding ¹²³I-MIBG scintigraphy was performed. The MIBG scan confirmed the octreotide positive lesion and showed an additional abdominal lesion in the SPECT study. According to the scintigraphic results, radioguided surgery (RGS) was implemented using ¹²³I-MIBG. This resulted in the intra-operative detection of two para- and pre-aortic lymph node metastases by the gamma probe and successful resection. An additional preaortal lymph node, suspicious by palpation, was also removed. Histopathology revealed metastases of a carcinoid tumor in all three specimens. In conclusion, the use of RGS facilitates successful removal of carcinoid metastatic lesions despite negative conventional imaging results. Secondly, ¹²³I-MIBG scintigraphy may provide advantages over octreoscan for preoperative localization as well as radio-guided surgery of neuroendocrine metastatic lesions, if the involved site is located in proximity to highly octreotide-avid organs such as the kidneys or spleen.

Key words: ¹¹¹In-pentetreotide, ¹²³I-MIBG, radioguided surgery, carcinoid metastases, neuroendocrine tumor