

The usefulness of cardio-vascular visualization in the localization of mediastinal pheochromocytomas with I-131-MIBG

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A case of malignant mediastinal paraganglioma showing moderate I-131-MetaIodoBenzylGuanidine (MIBG) uptake in the pericardiac region is presented. The patient had already undergone unilateral adrenalectomy with obvious clinical and biochemical findings of pheochromocytoma. The initial thoraco-abdominal CT and adrenal MRI were negative. The MIBG scan prior to the operation showed moderately increased uptake in the left adrenal region. No pheochromocytoma was found in the removed gland and the clinical signs persisted following the operation. The second MIBG scan after surgery showed a moderate left mediastinal uptake site by which it was difficult to rule out intracardiac localization. Without moving the patient, successive images of the tumor, myocardium and main mediastinal vessels were obtained by using the 24 hour activity of the initially injected 37 MBq Iodine-131-MIBG, 74 MBq Thallium-201 and 555 MBq Tc-99m-Human Serum Albumin (HSA), respectively. The superimposed bicolor images clearly showed the extracardiac localization of the tumor. The MRI scan confirmed this finding. Subsequent surgery found a malignant paraganglioma and metastatic mediastinal lymph nodes. We conclude that the visualization of the myocardium and the main mediastinal vessels with specific agents can be very useful in defining the exact location of I-131-MIBG detected mediastinal pheochromocytomas.

Key words: iodine-131-MIBG, tumor imaging, pheochromocytoma