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DIAGNOSIS OF PHEOCHROMOCYTOMA BY I-131-MIBG SCINTIGRAPHY

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MIBG scintigraphy was done in 24 patients suspected of pheochromocytoma. Tumor uptake was shown in 6 cases, two at the adrenal gland, three at bladder, and one at paraaorta. Those underwent operation, and all of the tumors were histologically proven to be pheochromocytoma. No MIBG uptake was shown in one patient with para-aortic mass suspected of metastatic pheochromocytoma. Prominent adrenal uptake was misdiagnosed as paraganglioma because uptake was prominent anteriorly rather than posteriorly. Normal adrenal glands were faintly visualized in 14 out of 24 cases.

It is suggested that MIBG scintigraphy is useful in diagnosis of pheochromocytoma. However further discussion on pathological meaning of adrenal uptake will be needed.

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TWO CASES OF MALIGNANT BROWN CELL TUMOR WITH SYSTEMIC METASTASES APPLICATION OF I-131-MIBG.

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Two patients with histologically confirmed, malignant brown cell tumor of the adrenal origin were examined by systemic scintigraphy with I-131-MIBG, X-ray CT, bone X-ray and bone scintigraphy. The MIBG systemic scintigraphic findings were compared with the findings of other imaging techniques. In both cases, abnormal accumulation of MIBG was demonstrated in the histologically confirmed primary focus and in some of the metastatic foci of the liver, bone and lymph nodes in which the tumor involvements were suspected by CT and bone scintigraphy. However, when compared only for osseous metastases, in one case abnormal accumulation of MIBG existed in 4 of the 6 lesions where metastasis was suspected by bone scintigraphy and bone X-ray. In the other case, abnormal accumulation of MIBG existed in 3 of the 6 lesions where metastasis was likewise suspected. As far as at least these 2 cases were concerned, abnormal accumulation of MIBG was detected in only 58% of the lesions suspected obviously of osseous metastasis by the bone imaging techniques such as bone scintigraphy. On the other hand, bone scintigraphy failed to visualize one lesion in the cranial bone where MIBG systemic scintigraphy distinctly delineated abnormal accumulation of MIBG.

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I-131 MIBG SCINTIGRAPHY-OUR EXPERIENCES.

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The efficacy of I-131 MIBG (metaiodo-benzylguanidine) scintigraphy has been already reported in many articles. In our hospital, adrenal scintigraphy using I-131 MIBG was carried out in 24 times of 21 cases. The result were shown as follows. Among 21 cases, seven had positive scans. In these 7 cases, we observed four benign pheochromocytoma, two malignant pheochromocytoma and one neuroblastoma. On the other hand, out of 14 normal cases, three normal adrenal glands were slightly visualized bilaterally (21%). We have concluded that I-131 MIBG scintigraphy was of considerable value in detection of not only pheochromocytoma but also metastatic lesions from malignant pheochromocytoma. Furthermore, we described the best time for scanning after the injection. Tumor/background count ratio tended to increase through 24 and 48 hours. But 24 or 48 hours scan seemed to be the best as far as the visible concerned.

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I-131-MIBG SCINTIGRAPHY IN NEUROBLASTOMA

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I-131-MIBG scintigraphy has been performed in two patients with mass suspected neuroblastoma and with recurrent or metastatic neuroblastoma. In one patient with the rt.adrenal mass, marked concentration of MIBG in the tumor and its metastatic lesions was noted. In another patient suspected of recurrence 9 years after an initial treatment, generalized metastatic lesions were identified by I-131-MIBG scintigraphy. These tumors were histologically proven to be neuroblastoma. In other recurrent cases with tumor histologically proven neuroblastoma, no MIBG uptake were shown. In one patient with pelvic tumor, no MIBG uptake also were shown, but the mass was diagnosed rhabdomyosarcoma in autopsy.

In this study we got false negative scan in half of the cases. However, MIBG scintigraphy is still useful in diagnosis of neuroblastoma, and it is very useful in follow up of neuroblastoma.