

### Gallium-67 Scans and <sup>99m</sup>Tc Bone Scans in Children with Solid Tumors

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188 <sup>99m</sup>Tc bone scans and 118 gallium-67 scans were carried out in 95 and 69 pediatric patients respectively, ranged from 1 months old to 15 years old. 66 patients of them had solid tumors. 49 had malignant tumors (17 neuroblastomas, 7 ganglioneuroblastomas, 6 malignant lymphomas, 4 sarcomas, 3 hepatoblastomas, 3 embryonal carcinomas, 3 Wilms' tumors, 3 malignant histiocytosis, 2 malignant sacrococcygeal teratomas and one malignant thymomas) and 17 had benign tumors.

Of 34 patients with malignant tumors studied by gallium-67 scans before surgical operation, pathological accumulation were found in 29 patients, ca 85%, but in none of 9 patients with

benign tumors.

25 patients with malignant tumors were studied by <sup>99m</sup>Tc bone scans before surgery. 17 patients of them, 68%, had pathological accumulation in the scans and 5 of 17 patients had in malignant tumor itself.

Five patients with benign tumors excluding bone tumors did not show any accumulation in bone, except one case of teratoma who had positive finding in bony substance of tumor itself.

From our experience it is conceivable that gallium-67 scans and <sup>99m</sup>Tc bone scans are useful as the preoperative routine examination and the postoperative follow-up of the tumors in children.

### Clinical Evaluation of <sup>67</sup>Ga-Citrate Scintigraphy to Hilar Metastatic Lesions in Lung Cancer

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This study was performed to evaluate whether <sup>67</sup>Ga-citrate scintigraphy was useful or not to detection of metastasis of hilar and mediastinal lymphnodes in lung cancer.

Subjects observed totalled 87 cases which were classified; 53 cases which were examined existence of metastatic lymphnodes in hilum and mediastinum by surgical operation, 22 non-operation cases with small cell carcinoma which were highly suspected some metastasis in hilum, 12 cases which were suspected metastatic hilar lymphnodes on the chest X-ray film.

In 27 cases which were confirmed metastasis of hilar and mediastinal lymphnodes (N<sup>+</sup>) by surgical operation, 8 cases (29.6%) showed no

accumulation of <sup>67</sup>Ga-citrate in mediastinal region. In 26 cases which were confirmed no metastasis of hilar and mediastinal lymphnodes (N<sup>-</sup>) by operation, 8 cases (30.8%) showed abnormal concentration of <sup>67</sup>Ga-citrate in mediastinal region. The former were false negative cases and the latter were false positive cases.

One case (7.7%) in 13 cases which were confirmed N<sup>+</sup> by operation and chest X-ray film, showed no metastatic deposit of <sup>67</sup>Ga in mediastinal region. On the other hand, 7 cases (50%) in 14 cases which were confirmed N<sup>+</sup> by operation and N<sup>-</sup> on the chest X-ray film, showed false negative sign.

In non-operation cases with small cell carti-