

### Clinical Studies of Radioisotope Myelography with $^{111}\text{In}$ -DTPA

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1) 27 myeloscintigraphies with  $^{111}\text{In}$ -DTPA were performed for the patients with spinal lesions.

2) With lumbar puncture, 30 mCi. of  $^{111}\text{In}$ -DTPA was introduced into the subarachnoid space through the spinal needle of a 22 gauge. After injection, the patient was placed prone on the plain table. Scanning was performed, using apparatus (Dyna Camera 3C), and simultaneously, counts were obtained from the each levels of the spine, namely from T-1, T-6, T-12 and L-4 level.

3) In the 13 of 27 myeloscintigrams, positive findings of an abnormality were observed. All cases of spinal collapse with the metastatic cancer

were observed as complete block. In the many cases of the herniated lumbar intervertebral discs, the partial defect was observed, correspondingly.

4) Although the positive findings were always obtainable in the large lesions, the small lesions were often showed as negative findings, respectably.

5) No significant side effects following  $^{111}\text{In}$ -DTPA myeloscintigraphy were experienced. Especially, in the spinal collapsed cases, the neurological symptoms were not aggravated following the examinations.

### The Significance of Delayed Brain Scans

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We performed the brain scans twice in the same patients in 183 cases during the past two years. The initial scans were performed soon after the administration of 10 mCi of Tc 99m pertechnetate and the second (delayed) scans were about four hours later. Thirty-five cases showed localized rounded areas of increased radioactivity (10 cases of neoplastic lesion, 19 cases of cerebrovascular damage, and 6 cases of other diseases). The degrees of accumulation of radioactivity in lesions were compared on initial and delayed scintigrams by densitometer. In most cases the delayed scans showed improved visualization of lesions compared to the initial scans. That is, among these thirty-five cases showing positive brain scans, twenty-four cases showed increased density in the delayed

scans than the initial one (7 neoplastic, 14 vascular, and 3 other lesions), eight cases showed similar density in both scans (2 neoplastic, 5 vascular, and 1 other lesions), and three cases showed decreased density in the delayed scans (1 neoplastic and 2 other lesion). In addition, there were seventeen cases which showed negative scans initially and later became positive in delayed scans, and one case which showed positive scans initially and later became negative in delayed scans.

In summary, the delayed scans were more significant than, or, at least, similarly useful as, the initial scans in 32 among 35 cases (91.4%). Therefore, if we perform the brain scans only one, the delayed scans will be more significant and more preferable than the initial scans.