

### CONCLUSION

- 1) Profile bone scanning has proven to be very effective as a mean to find out the presence of lesions and locality as well, when compared with the findings on the corresponding portion in the healthy side of extremities.
- 2) As for bone tumor, as are seen in many other reports this method was found to be extremely useful for grasping the scope

of lesion, even in the early stage of disorders.

- 3) In the case of osteomyelitis, similar scintigrams were obtained and it seem difficult to differentiate between osteomyelitis and bone neoplasm only from scintigram. If should, however, be noted that findings in scintigram of osteomyelitis cases has been excellently correlated with the clinical findings present.

### Bone Marrow Scanning

S. KARIYONE

*First Division, Dept. of Int. Med., Faculty of Med., Kyoto Univ., Kyoto*

Bone marrow scanning using  $^{198}\text{Au}$  colloid,  $^{99\text{m}}\text{Tc}$  colloid or  $^{113\text{m}}\text{In}$  colloid are began to use widely. However, these colloid can be taken not only by bone marrow reticulum cell but also by reticulo-endothelial cells in the liver and spleen. Then, complete figures of the total bone marrow in a whole body is hardly obtained because very high activity of these radioisotopes in the liver and spleen may interfere the activity in surrounding bone marrow.

There may be some possibility that the different distribution between reticulo-endothelial cell and hematopoietic cell in a bone marrow are existed. On the hematological point of view, representation of localization and extension of active functioning bone marrow are required. For this purpose, it is more desirable that bone marrow scanning is performed using radioisotopes which is related

with the function of hematopoiesis, such as radioactive iron.

Anger et al has shown clear image of bone marrow using  $^{52}\text{Fe}$  and positron camera. However, it is inadequate for long term study because  $^{52}\text{Fe}$  has an very short half life. Since  $^{59}\text{Fe}$  has high energy gamma-ray, it is not suitable for scintiscanning by usually used gamma-camera or scintiscanner. Large dose of  $^{59}\text{Fe}$  must be avoided, because it has a moderately long half life. On this circumstances, an scintillation scanner or camera which are suitable and quite efficient for high energy gamma-ray are earnestly desired.

Several cases of bone marrow scinti-photographs during ferrokinetics study which is obtained by the author using Anger's whole body scanner are presented and its availability are discussed.