We have studied quantification of Ga-67 uptake on scintigram, and derived theoretical equation from the experiment. It is possible to quantify by using this equation. The quantitative uptake ratio are obtained by substituting this equation into attenuation coefficients of soft tissue and bony tissue.

We previously reported theoretical equation was applicable to soft tissue system. The purpose of this paper is to measure attenuation coefficients of bone, to estimate accuracy of quantification of Ga-67 on system contain bony tissue experimentally, and to compare this ratio with visible appearance on scintigram.

In result, we confirmed this ratio was useful in quantification of scintigram was not always consistent with true accumulation in lesion, we would suggest to use quantitative uptake ratio in order to quantify Ga-67 uptake on scintigram.

This study was undertaken to investigate the accumulation of In-114m in the inflammatory lesion. Inflammatory lesion was induced in rats according to the method of subcutaneous injection of turpentine oil. In-114m chloride was injected intravenously to the rats, and the uptake rates of this nuclide into the lesion and normal tissues were assayed. The accumulation of this nuclide was compared with that of Ga-67 by a dual nuclide technique using In-114m and Ga-67. Accumulation rate of In-114m in inflammatory lesion increased with time after injection of turpentine oil and reached plateau five days later. At that time the value(4.57%dose/g) for this lesion was larger than those for any other tissues. In experiments using the rats which had been held for five days after subcutaneous injection of turpentine oil, the accumulation rates of In-114m in inflammatory lesion increased with time until six days after administration Of In-114m chloride.

Accumulation rate of In-114m in inflammatory lesion was larger than that(3.2%dose/g) of Ga-67. In the case of many organs(Kidney, spleen, liver, etc.), accumulation rates of In-114m were larger than those of Ga-67, although the rates of Ga-67 for bone and stomach were larger than those of In-114m.