VIII. Instrumentation and Radiopharmaceuticals (I)

A color scinti-photography using memory scope on the scintillation camera

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A memory scope can visualize the process in which a scinti-gram is made. Therefore, it prevents an operator from failure of over exposure or under exposure.

It also can show energy spectrum of radio-isotopes with combination of memory scope and gray wedge filter.

Adjustment of the storage grid bias voltage of a memory scope makes back ground cut-off and enhancement possible.

Using these characteristics, we tried to get color scinti-photographies, and made some basic experiments with it.

On The Clinical Evaluations of Scintillation Camera with Diverging Collimator

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Fundamental and clinical evaluations of the diverging collimator for Pho/Gamma camera were studied using 1600 channel analyzer.

Iso-response curves by the diverging collimator showed the more rapid decrease in count-rate with source-to-collimator distance than that of parallel collimator. With $^{131}$I point source and 1600 channel analyzer, iso-response curves in each channel were computed, which showed the increase of field of view at 15° angle of inclination and showed reduction of RI image according to the distance from the collimator face, and the narrow, almost parallel figure of iso-response curve showed good collimation equivalent to that of parallel collimator.

Resolution was measured by an array of $^{131}$I paper phantom, placed at various space. An interval of 7 mm could be detected both with diverging and parallel collimator. This indicates that the resolution is quite comparable to that of parallel collimator. The detector sensitivity was about 40-60% of the parallel collimator.

Scintiphotos of $^{131}$I paper phantom and liver slice phantom, placed at various distance from the collimator, showed no significant differences in the field uniformity, image resolution and linearity between diverging and parallel collimator except for the reduction of RI.