ray images with a great reduction of radiation dose to the patient.

The image chamber is cylindrical and measures about 70 cm in diameter. The X-ray generator and a line-shaped scintillation detector are rotated around the imaging chamber by a digital servo-drive system. The X-ray generator of this instrument is essentially an electron microscope equipped with heavy metal target. Electron beam is generated from an electron optical lens onto the target. The beam is acceralated by high voltage up to 140 kV, and impinge onto the tungsten target of 140 mm diameter as a fine focal spot. Before hitting the target, the electron beam is rapidly and accurately deflected by a coil in accordance with positional instructions from a computer or a scan generator. High intensity X-rays pass through a pinhole and form an X-ray microbeam. Transmitted X-rays through the patient body are detected by sodium iodide scintillation crystals. Beside the line-shaped crystal, a large round crystal of 16 inch diameter is equipped for the two-dimenstional scanning X-ray images.

Clinical Evaluation of Domestic High-Resolution Scinticameras

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The purpose of this study is to evaluate the superiority of the new domestic high-resolution scinticameras to the ordinary ones in the quantitative data handling of their dynamic images. Toshiba Jumbo GCA-401 and Hitachi RC-1C-1635DL were so far available.

Toshiba camera along with a high-resolution collimator (46,000 holes) have the resolution of 3.2 mm in the bar phantom study which was achieved by the circuitry revision. Hitachi camera with a high-resolution collimator (67,000 holes) gave the resolution of 2.0 mm, which was achieved by lessening the thickness of sodium iodide crystal from —12.7 mm to 9 mm.

These high-resolution cameras were proved to be useful for the radionuclide angiography of the brain (including Moyamoya disease), heart (initial pass studies and gated studies), and transpanted kidneys.

On the Performances of Image Display Processor Model IDP-2

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The Image Display Processor Model IDP-2 is a hard-wired device which performs the recording of scintigrams on the cassette tape and displays processed scintigrams by simple push-button or dial operation.

The recording of scintigram and display of it after processing are carried out simultaneously, and the otpmum scintigram can be obtained by repeating the playback for several photo-recording conditions. Also patient code can be recorded in cassette tape with scintigram for the convenience of searching data for a patient to be studied.

Image is displayed on X-ray film(14s × 17s at maximum) and CRT (5s × 4s) with maximum two hundred image elements for one scanline. Every element has couts accumulated in every 1.5 or 3.0mm interval.

The Processor has such functions as the addition and the subtraction of data from upper and lower detectors, 3 or 9 points smoothing, isocount display, and R.O.I. selection.

The photo-scintigrams on X-ray films can be obtained under such various recording conditions as Cut off, Contrast Enhancement, and Informa-