(3) History and Current Status of Nuclear Medicine in Korea

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The medical application of nuclear medicine in Korea finds its origin in June, 1959, when radioactive iodine therapy was given to a patient with hyperthyroidism, while the legal background for the medical uses of radioisotopes was provided by the Atomic Energy Law promulgated in 1958. The real active application of radioisotopes in clinical medicine, however, was made possible after the Radioisotope Clinic was opened at the Seoul National University Hospital in April, 1961. In the early 1960's four medical institutes had radioisotope facilities including scintiscanners, scintillation counters, detectors and spectrometers some of which were provided by the United States Atomic Energy Commission. And at the beginning, thyroid function tests and ferrokinetic studies were the primary clinical applications. Scanning of various organs became generalized with the wide use of the photoscanners from 1964 and scintillation cameras from 1969. A new era in the development of the nuclear medicine has started in March, 1979 with the use of computer system in the dynamic studies including radioactive nuclear cardiography and renography. Radioimmunoassay techniques began to be used rom 1969 and at present about thirty of tests are being performed for the research purposes and clinical medicine. As the application of nuclear medicine to clinics became generalized, the Korean Society of Nuclear Medicine was founded in 1961, and today it has become known as one of the oldest nuclear medicine societies not only to Asian nations but also to other advanced countries all over the world. The Korean Society of Nuclear Medicine issued its initial magazine in 1967 and every year two editions are published. Now the Korean Journal of Nuclear Medicine has been improved to such an extent that foreign authors quote its contents.

Now total 27 medical institutes are equipped with various kinds of radioisotope facilities for the nuclear medicine in Korea, and the amount of radioisotopes consumed in Korea for the medical purpose reached about 2000Ci in 1978 from 5207 mCi in 1962 and 328 Ci in 1970. The kinds of radiopharmaceuticals were also increased from 25 items in 1962 to more than 40 items.

(4) Radiometric Assays for Diagnosis of Infectious Diseases

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Radioimmune assays have developed through applications to polypeptide hormons, haptenic physiologic molecules and currently macromolecules associated with infectious agents. Viral and bacterial diseases have been diagnosed through biophysical isolation of the organisms from clinical specimens. These procedures require many days or weeks. Systems for automating the growth of bacteria have shortened these procedures to a few days. Application of solid phase radioimmune assays to hepatitis viruses has now led to use of the procedures for all classes of infectious agents. Many viral and bacterial diseases can now be diagnosed serologically in hours or minutes and are valuable procedures for guiding the clinician in managing patients.