

γ ray emitted from it. In 1957, $^{99}\text{Mo} / ^{99\text{m}}\text{Tc}$ generator system was developed. And after the study for the distribution of sodium pertechnetate in rat body, the scanning of several organs in human body started in 1962 and $^{99\text{m}}\text{Tc}$ labelled human serum albumin was used in 1964 for scintillation scanning of the placenta. Following the scanning of spleen by $^{99\text{m}}\text{Tc}$ sulfur colloid in 1966, various radiopharmaceuticals of Tc complex compounds were developed and used as follows: phosphonate for bone (1971), phytate for liver (1973), dimercaptosuccinic acid [DMSA] for kidney (1974), pyridoxylidene glutamate [PG] for hepato-biliary system (1974) and so on. Such developments including the imaging of heart and brain continue until now, with the synthesis of new coordination compounds. [6][7][9]

5) Search for technetium in our environment including cosmos have continued after the discovery of artificial radioactive isotopes with long-lived ones. In 1951, the occurrence of Tc-II spectral lines in the surface of the sun was reported, though it became erroneous finding by re-examination. However many lines of Tc-I were confirmedly found in S-type stars (1952) and in N-type stars (1956). Technetium has been described as the touch-stone of cosmological theory. It was reported in 1957 that the s-process nucleosynthesis occurring in certain stars might produce technetium. Natural technetium on the earth was found from pitchblend as ^{99}Tc in 1961 and 1964. Recently as for the Oklo natural reactors, ^{99}Ru as the daughter nuclide of ^{99}Tc have been studied geochemically. Mainly due to atomic bomb test in the atmosphere and releases from the nuclear fuel cycle site, artificial ^{99}Tc enter into our environment since 1950'. The studies on such environmental Tc began from 1969 for water samples and the concentration in rain water was reported in 1971. Following these studies, with the monitoring of Tc diffusing as nuclear waste, studies including biological intake have been made extensively until now from radioecological point of view. [1][4][8][9]

References

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