Tc-99m-DMSA PHARMACOKINETICS IN HUMAN BODY.

The exposure dose calculated by the MIRD method was as follows: total body 7.1 mrad/mCi liver 2.5 mrad/mCi, intestine 6.5 mrad/mCi (based on biodistribution of five mice), bladder 0.23 rad/mCi (based on urine cumulative ratio of human).

The thin layer chromatography and column chromatography revealed that Tc-99m-DMSA in the blood was combined to plasma protein with no detectable Tc-99m-O4 and relatively quick and its half-time was about 90 min.

The time course study indicated that Tumor/Tissue ratio was increased by reducing the back ground radioactivity and the scintigram was taken between 2 and 3 hours after Tc-99m-DMSA administration.

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The advantages of Tc-99m-DMSA in a tumor seeking agent were that (1) Scintigram could be obtained within 3 hours after i.v. administration. (2) There was no or very little excretion to intestine, and less accumulation to lacrimal and salivary glands than Ga-67-citrate. (3) Picture obtained was clear and suitable for emission computed tomography.

Tc-99m-DMSA was excreted into the urine without any change.

The pharmacokinetics of Tc-99m-DMSA was studied using normal volunteers.

There were no remarkable side effects by the i.v. administration.

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