

## Long-Term Organ Retention and Pathology in a Thorotrast Patient: A Preliminary Report

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In late 1992, a second whole body donation of a Thorotrast case was donated to the United States Transuranium and Uranium Registries (USTUR). At the age of 15, the donor had a brain abscess surgically removed following imaging with Thorotrast. On examination in 1971, there was no evidence of thorotrastoma or remaining Thorotrast deposits in the neck region near the injection site. A whole body radioactivity measurement for  $^{232}\text{Th}$  yielded 4.9 kBq (133 nCi). In 1991, a CT scan revealed a large tumor in the right hepatic lobe. The patient died of liver cancer approximately one year later.

Preliminary radiochemical data on tissue concentrations of  $^{232}\text{Th}$ ,  $^{230}\text{Th}$ ,  $^{228}\text{Th}$ , and  $^{228}\text{Ac}$  have been determined in several organs. Of the soft tissues analyzed for  $^{232}\text{Th}$  thus far, the liver hilar node concentration was the highest, followed by the para pancreatic node, spleen, and the para aortic node. The gross liver tumor was divided into normal liver, transition area, and tumor, with the highest Th concentration found in the tumor. Several tissues displayed disequilibrium ratios between  $^{232}\text{Th}$  and its daughters. Overall, the retention and organ distribution of Th and its daughters in the present case are similar to those values reported in the literature.

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