

Histopathology and ²⁴¹Am Microdistribution in Skeletal USTUR Case 246

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Histopathology and qualitative autoradiography studies were undertaken on bone removed at autopsy from USTUR Case 246. The histopathology examination revealed extensive bone marrow peritrabecular fibrosis and decreased cellularity in most samples. In addition, histological indicators suggest that bone cell turnover was suppressed at most sites, although turnover was found to be essentially normal in a vertebral body sample. The autoradiographic studies showed that bone turnover that had occurred resulted in the redistribution of americium within bone. However, surface deposits of americium remained conspicuous at many sites, particularly those with low bone growth activity. A few percent of the americium was present in the bone marrow. The dosimetric and toxicology findings indicate that current assumptions about the metabolic behavior of bone-seeking radionuclides are likely to unrealistically simplistic.

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