

Intravascular survival of leukemic cells labeled with Indium-111-Oxine

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A method for labeling leukemic cells *in vitro* with ^{111}In -oxine is described. Intravascular survival data and organ distribution of ^{111}In -oxine-labeled leukemic cells in patients with acute leukemia are presented. No evidence of diminished cell viability or significant elution of the label could be found by the *in vitro* studies. Disappearance curves of ^{111}In -labeled leukemic cell radioactivity in the circulation were a single exponential with average $T_{1/2}$ value of 15.3 ± 2.5 hr (mean \pm SEM), which was found to be prolonged when compared with the results of 4 hematologically normal subjects (7.0 ± 0.8) and those of previously reported DF^{32}P studies. Migratory patterns of the labeled leukemic cells, obtained by a scintillation camera, demonstrated sequestration in the lungs 5 min after the infusion, and thereafter, the uptake into the spleen and liver gradually increased. We believe that the properties of ^{111}In -oxine might overcome many of the difficulties of studying leukemic cell kinetics with cells labeled with tritiated thymidine.

Key words: Leukokinetics, Leukemia, In-111-oxine