TABLE 2

CLINICAL DATA ON SUBJECTS RECEIVING INTRAVENOUS INJECTION OF APPROXIMATELY 5 μg OF PLUTONIUM AS Pu^{+4} CITRATE

PATIENT CODE	SEX	AGE	WT. Kg.	Pu ADMIN AMT. μg	Pu ADMIN DATE	LABORATORY STUDIES DATE	HGB g %	RBC x 10^{-6}	WBC x 10^{-3}	PMN %	LYMPHS %	EOS. %	BASO. %	MONO. %	UREA Cl. %	BUN	NPN
Up- 1	M	67	70.3	4.6	10/16	10/4	13.9	4.47	7.1	71	19	1	0	9	98	21	-
						10/19	13.7	4.55	7.0	54	34	4	1	7	80	23	-
Up- 2	M	49	69.0	5.1	10/23	10/6	15.0	4.7	9.05	57	28	8	0	2	58	25	-
						11/7	14.5	4.1	7.85	68	22	8	0	2	40	23	-
Up-3	F	49	69.9	4.9	11/27	11/2	14.5	4.3	5.7	59	39	2	0	0	70	-	34
						12/16	-	5.6	6.8	69	25	0	1	5	-	-	31
Up- 4	F	18	55.5	4.9	11/27	10/30	15.0	5.3	10.0	77	20	0	1	2	-	-	-
						3/21	16.0	-	6.9	74	22	0	0	4	-	-	-
Up- 7	F	59	68.0	6.3	2/0	1/23	12.6	3.26	4.75	64	24	3	0	6	94	-	26
						2/20	-	-	5.25	64	25	0	0	9	-	-	-
Up- 8	F	41	54.4	6.5	3/9	2/22	13.9	4.7	9.5	71	22	0	0	13	85	10	30
						8/21	14.5	4.05	11.9	88	12	0	0	0	-	-	-
Up- 9	M	68	63.0	6.3	4/3	3/13	12.3	3.9	6.25	70	17	0	0	13	72	-	-
						1/25	12.3	4.1	7.3	61	9	12	1	17	-	-	-
Up-10	M	52	71.0	6.1	7/10	7/0	13.3	5.5	5.65	31	52	5	2	7	87	11	22
						8/13	-	-	-	42	46	3	2	8	82	-	-
Up-12	M	53	-	4.7	4/9	4/4	8.9	2.65	5.6	74	18	-	-	6	-	30	44
						7/3	13.5	4.51	4.3	32	64	-	-	4	-	12	37

Explanation of Symbols: HGB = Hemoglobin; RBC = Red Blood Cell Count; WBC = White Blood Cell Count; PMN = Polymorphonuclear Cells; LYMPHS = Lymphocytes; EOS. = Eosinophiles; BASO. = Basophiles; MONO. = Monocytes; BUN = Blood Urea Nitrogen; NPN = Non-Protein Nitrogen; UREA Cl. = Urea Excretion in Per Cent of Normal at One Hour.

subjects before plutonium injection and at frequent intervals thereafter. All tissue samples were analyzed for plutonium by the cupferron extraction procedure subsequent to ashing.

The data in Table 3 show the results of analyses of the various samples for plutonium. The results obtained by Russell and Nickson (13) (referred to as Chi. I, II, III) and Hamilton et al (14) (referred to as Cal. I) are presented also. Two important points must be kept in mind when considering these data: (1) The samples of human tissues were, for obvious reasons, rather unsatisfactory. In most cases they were too small, poorly representative and were usually what could be obtained under the circumstances rather than what were desired; (2) The subjects were chronically ill and/or elderly and the results may not represent exactly the distribution of plutonium in tissues of healthy persons of average working age. These data, however, are all that are available and, therefore, must provide the basis for our present concept of the distribution of plutonium in the organs and tissues of man. They must also provide a basis for comparison with the results obtained from the numerous studies of plutonium deposition in experimental animals.

1. Deposition in the Skeleton

Animal experiments (1), (2) reveal that approximately 60 per cent of plutonium injected as PuO_2^{++} and Pu^{+4} - citrate is localized in bone. If the vertebra, sternum and whole rib are taken as representative bones of the skeleton, and the average plutonium content (.00657%/g),