

July 26, 1944

DR. L. O. JACOBSON

HEALTH

DR. S. SCHWARTZ

MONTHLY REPORT OF CLINICAL RESEARCH GROUP -- JULY 1944
S. SCHWARTZ

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In last month's report it was noted that about half of the project personnel exposed to tuballoy or to non-tuballoy metal, have a fairly consistent increase of 50% or more in the concentration of urine coproporphyrin over that found in non-exposed controls.

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In the report of February 1944, on the other hand, we described a precipitous drop in the excretion of coproporphyrin in rabbits injected with a lethal dose of tuballoy. This drop was ascribed to the kidney damage produced by tuballoy, since the same finding has been observed in patients with renal uremia.

Several rabbits have since been injected with relatively small doses of tuballoy. The data is given in graphs I through . A rise in coproporphyrin excretion is noted in every instance, though in some cases the rise did not appear until several weeks after the injection. It is felt that this lag may possibly be due to temporary renal impairment.

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For The Atomic Energy Commission
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Coproporphyrin studies in rabbits following the administration of various doses of total body x-ray, are illustrated in graphs 6 through 9. Results of studies of control rabbits injected with radium and with product are given in graph 10.

It will be noted that control rabbits and rabbits exposed to small doses of x-ray, have an average coproporphyrin excretion of about eight to ten gamma per day. Rabbits injected with tuballoy show rises to 20 gamma per day or more in practically every instance. Radiation, except possibly sub-lethal doses, has little, if any, affect on the urine coproporphyrin excretions. The studies of the product and radium injected animals are continuing and will be reported in detail several months hence. The coproporphyrin rise shown, if significant, is undoubtedly due to metal or chemical toxicity of the latter two substances. The spiking of coproporphyrin levels in control rabbit SH₃ (male), is of uncertain significance. As noted in a previous report, several of our normal female rabbits have shown a similar ten to 11 day cycle.

~~(If coproporphyrin isomer studies can be made at Minnesota next week, I should like to include the findings in this month's report. I am prepared to study 150-175 urine samples distributed evenly among rabbit and human subjects.)~~

Personnel	July	August
Research associate	1	1
.. assistants	5	6
Technicians	15*	15*
Lab. assistants	1	1

Distribution of effort

	July		August	
	Ac.	Non-ac.	Ac.	Non-ac.
1. Studies of project personnel	2.0	3.5	2.0	3.5
.. .. non-project controls	0.2	1.0	0.2	1.0
.. .. humans exposed to repeated doses of X-ray	0.1	0.7	0.1	0.2
.. .. studies of humans given P^{32}	0.5	1.2	0.4	1.0
.. .. animals given a single dose of X-ray	0.4	*	0.4	1.5
0. Studies of rabbits administered radium subcutaneously	0.2	0.6	0.2	0.4
7. Studies of rabbits administered product subcutaneously	0.1	0.3	0.1	0.2
8. Studies of rabbits administered product tuballoy subcutaneously	0.6	3.0	0.7	3.5
1. Administration & teaching	0.7	0.0	0.5	0.0
0. Study of new techniques	0.5	1.0	1.4	0.5
11. Cleaning glassware, etc	0	1.7	0	1.7
12. Vacations & leave of absence	0.7	1.5	1.0	2.5
	6.0	16.0	7.0	16.0