cultures with RNA extracted from human leukemic tissues. Further efforts by these authors to identify these cytopathogenic agents by injection of mice with tissue culture material led to inconclusive results with one investigator(6) whereas the other(7) recorded a significant incidence of leukemia in the injected animals. It is against this background of experimental experience by others that our own results appear to be of interest. Judging from our data, there seems to be no question that leukemic guinea pig plasma or spleen extract, both of which are capable of transmitting the disease in susceptible guinea pigs, contain quite frequently a factor which destroys normal cells of the same species in tissue culture. Yet, our work offers no evidence to show that this factor is self-replicating *in vitro* or will induce transformation of normal host cells into malignant cells in tissue culture. The nature of the cytotoxic factor, therefore, remains unknown. It is possible that it represents a nonspecific by-product of the disease, due to some metabolic disturbance, which accumulates in blood and tissues at the height of the leukemic process.

Summary and conclusions. A cytotoxic effect is described which occurs when leukemic guinea pig plasma is added to normal guinea pig spleen cells growing in primary tissue culture. The nature of the cytotoxic factor is unknown.

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Weight of Adrenal Glands of Cats. (25946)

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Jones(1) states that "A vast amount of information has been collected about organ weights of the laboratory rat, a fair amount for man, the guinea pig and dog, some for the rabbit, cat, mouse and hamster . . ." Since knowledge of the weights of endocrine glands is often of great help in estimating functional status, and data on weights of adrenals of the adult domestic cat are none too plentiful, we are here reporting on a larger series of cats than has heretofore been published. Only 5 papers were found in the literature giving data on weight of cat adrenals, and in only 2 of these is there anything like an adequate series. Latimer(2) reports on 52 males and 52 females, with adrenal weight-body weight ratios of 0.140 and 0.150 g/kg respectively. Butterworth and Mann(3), in connection with another study, give data on 41 males and 48 females, with ratios of 0.131 and 0.148. These authors also report a ratio of 0.111 for 21 castrated males. The other papers have series of 10 or less. Elliott and Tuckett(4) reported on 5 males and 9 females, with ratios of 0.118 and 0.153. Hill(5) gives a ratio of 0.125, based on adrenals of 3 females. Crile and Quiring(6) give a combined ratio of 0.337 for 6 males, 3 females, and one cat of unidentified sex. Surprisingly, the Handbook of Biological Data(7) ignores all previous data and reports a combined average adrenal weight-body weight ratio of 0.2 from 7 males and 3 females.

Methods. The material consists of 85 male

TABLE I. Adrenal Weight-Body Weight Ratios of Cats.

	No. of cats	Body wt, kg			AW/BW, g/kg		
		Mean	95% range	Stand. dev.	Mean	95% range	Stand. dev.
All males	89	2.227	.803-3.651	.712	.147	.047-.247	.050
Small "	17	1.325	1.076-1.574	.124	.172	.087-.258	.043
Large "	15	3.383	2.770-3.995	.306	.124	.080-.167	.022
All females	102	1.886	.955-2.817	.465	.162	.077-.247	.042
Small "	15	1.258	1.026-1.490	.116	.199	.126-.271	.036
Large "	13	2.723	1.985-3.462	.369	.131	.064-.197	.033

and 103 female cats, all adults, which were used in experiments on intestinal absorption. They were killed by heart stab while under barbital anesthesia. The adrenals were removed immediately after death, trimmed, blotted, and weighed to the nearest 5 mg in the fresh state. Body weight of the animals was determined to the nearest 5 g.

Results are summarized in Table I. The groups of cats designated "small" and "large" are those whose body weights fell more than one standard deviation away from the mean. The 95% range is the range from 2 standard deviations below to 2 standard deviations above the mean.

The difference between adrenal weight-body weight ratios of male and female cats of all sizes is significant, by the t test, at the 3% level. The differences between ratios of large and small male cats, and large and small female cats, were both significant at the 0.1% level.

Discussion. The significant differences between adrenal weight-body ratios of males and females, and between those of large and small animals of each sex, are accounted for by the difference in body weight between the groups. If mean adrenal weight-body weight ratio for each group be plotted against mean body weights for the groups, all the points fall very close to a straight line except the value for the small females, which have somewhat larger adrenals than they should have for their body weight. But since the difference between this ratio and that for the small males, of about the same body size, is not statistically significant, this is probably a chance variation.

Brody and Kibler(8) give tables of the expected size of various organs with given body weights, calculated according to the equation $Y = aX^b$, the relative growth equation. Our data do not fit well with theirs, the various groups of cats having average adrenal sizes from 24 to 42% lower than those calculated according to the equation. Christian (9) gives a graph showing the relation between body weight and adrenal weight in various species of animals, not including the cat. Our data fit rather precisely onto his graph.

Summary. Adrenal weight-body weight ratios of 89 male and 102 female cats were determined. The ratio for males is 0.147 g/kg; for females, 0.162. The difference is statistically significant, and is due to a difference in average body weight of the 2 groups. A similar difference in ratios is seen between large and small male and large and small female cats.

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