more vascular. The collective weights to the nearest milligram compared as follows: Test, 25 mg.; control, 8 mg.

Microscopic examination of the ovaries showed an increase in vascularity and in the number and size of the follicles in the test specimens. (Fig. 1.)

The number of test animals is small and the response obtained is not striking but the results do seem to suggest further evidence in favor of a pituitary function for the subneural gland.

9076 P

Relation Between Human Vaginal Smears and Body Temperatures.*

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The inaccessibility of ovaries and uterus no longer handicaps the study of ovarian function in the human female since Papanicolaou and his associates[1] established the diagnostic value of vaginal smears. The smear technique, however, is necessarily surrounded with such precautions as to make it too elaborate for general use. In our effort to find a simpler but nevertheless reliable substitute we have correlated body temperature with changes in the vaginal smears on the ground that body temperature is known to vary in a regular manner during the menstrual cycle.[2]

The cycle of vaginal smears can be conveniently divided into 6 phases: (1) menstrual (3-7 day), (2) post-menstrual (3-6 day), (3) preovulative (1-5 day), (4) ovulative (1-3 day), (5) post-ovulative (5-8 day), (6) premenstrual (3-7 day). Rectal temperatures, taken before rising in the morning, *i. e.*, between 6 A. M. and 7 A. M., and vaginal smears were obtained daily during 5 complete menstrual periods of 4 young adult women without pelvic abnormality.

Table I summarizes the data. The lowest temperatures occur in the ovulative phase, the highest in the premenstrual phase. The

* Fellow of the General Education Board.

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[1] Papanicolaou, G. N., *Am. J. Anat.*, 1933, **52**, 519.

[2] Seward, G. H., *Psych. Bull.*, 1934, **31**, 153.

TABLE I.
Average Temperature Changes During 5 Menstrual Cycles in Each of Four Subjects.

		Menstrual	Post-mens.	Pre-ovul.	Ovulative	Post-ovul.	Premenstr.	Correlation coefficient
Subj. I	Temp.	97.5	97.4	97.4	97.1	97.8	97.9	+.850
	S.D.*	.40	.29	.36	.22	.41	.38	
Subj. II	Temp.	98.4	98.5	98.2	98.1	98.6	98.9	.860
	S.D.	.23	.31	.30	.16	.33	.27	
Subj. III	Temp.	97.9	97.7	97.6	97.6	98.5	98.4	.833
	S.D.	.31	.24	.22	.24	.39	.45	
Subj. IV	Temp.	98.3	98.3	98.1	97.8	98.4	98.7	.912
	S.D.	.28	.18	.27	.23	.30	.21	

*Standard deviation.

rank-correlation coefficients of body temperatures with vaginal smears arranged in the order (1) ovulative, (2) preovulative, (3) post-menstrual, (4) menstrual, (5) post-ovulative, (6) premenstrual are statistically significant, the values ranging from +0.833 to 0.912.

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Effect of Massive Doses of Adrenal Cortical Hormone on the Albino Rat.*

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The effect on the reproductive system, whether direct or indirect, of a deficiency in the adrenal-cortical hormone is well established. A hypersecretion has been held responsible for adrenal virilism but attempts to produce sexual precocity or other abnormalities of the reproductive system by injecting the hormone into normal animals have not given uniform results.

Howard and Grollman,[1] in the latest investigation on the effect of hypersecretion, injected a moderate excess of cortical hormone into normal rats for a maximum period of 57 days. Their results were negative and they attribute the positive results reported by some others to nonspecific impurities in their extracts.

The amount of hormone which could be injected in any of these experiments, however, is not comparable to the excess which might be secreted by a cortical tumor. Fortunately the new method of

* The investigation was carried out with the aid of a grant from the Committee on Scientific Research of the American Medical Association.

1 Howard, E., and Grollman, A., *Am. J. Physiol.*, 1934, **107**, 480.