

serum constituent. In a low percentage of animals, sufficient amounts are present to cause interference with the application of the standard agglutination test at the 1:50 and 1:100 dilutions.

Summary. A filter paper chromatographic technic was used to demonstrate the presence in animal serums of a non-specific agglutinative material for *Brucella*. As judged by the physio-chemical properties of the material it does not seem to be related to agglutinins which arise from a specific antigenic

stimulus of the classical type.

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Augmentative Effects of Steroids and Chorionic Hormone on Rat Ovary. (18818)

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It long has been known that the preliminary administration of estrogenic substances results in a marked augmentation of ovarian weight induced in rats by a gonadotrophic hormone. This was first accomplished in hypophysectomized rats(1-3), and in immature females not only with estrogens(4) but with testosterone propionate(5). During the war years Dutch students(6) also approached this problem and from their results drew an elaborate theory regarding gonadal function. The purpose of the present report is to direct attention to these studies and to add further findings with various steroid substances.

The rats employed in this study were from the Stanford colony and weighed from 35 to 40 g at 21 to 24 days of age. The usual procedure was to administer a single subcutaneous

TABLE I. Chorionic Hormone 750 I. U. Given on Day 2 to Each Group.

Day 1	No. Animals	Avg body wt., g	Uterus, g	Ovaries, g
Sesame oil .1 cc	4	42	.140	.023
Cottonseed oil .1 cc	5	40	.113	.024
Sesame oil .5 cc	4	46	.105	.037
Pregnenolone 5 mg	4	44	.131	.032
Cholesterol 25 "	4	43	.150	.042
Stilbestrol .5 "	5	39	.075	.059
" 1 "	4	44	.083	.071
Estrone 5000 I. U.	4	46	.119	.039
" 10000 I. U.	4	49	.081	.059
Estradiol benzoate .8 mg	4	44	.095	.072
" dipropionate 2 mg	4	44	.114	.060
Progesterone 5 mg	5	38	.145	.018

injection of the steroid or control material on the first day of the experiment while on the second day they were given 3 intraperitoneal injections of 250 I.U. of chorionic hormone (A.P.L.—Ayerst). The 2 sites of injection were used in order to avoid any change in the rate of absorption of the active material. The rats were sacrificed with natural gas on day 6 when body, uterine and ovarian weights were obtained, and the ovaries fixed in Bouin's solution for section and microscopic examination.

The injection of sesame or cottonseed oil 0.1 cc on the first day of the experiment gave ova-

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TABLE II. Chorionic Hormone 750 I. U. Given Each Group on Day 1.

Day 2	No. Animals	Avg body wt, g	Uterus, g	Ovaries, g
Stilbestrol .5 mg	4	45	.099	.038
" 1 "	4	42	.093	.031
Progesterone 5 mg	4	50	.141	.060

ries of .023 and .024 g while they weighed .037 g with sesame oil 0.5 cc, .032 with pregnenolone 5.0 mg and .042 g with cholesterol 25.0 mg (Table I). On the other hand, a marked increase (up to .072 g) in ovarian weight was obtained with high dosages of estrogenic substances, for instance, stilbestrol, estrone (Theelin-Parke Davis), estradiol benzoate (Ovocylin benzoate-Ciba) and estradiol dipropionate (Ovocylin dipropionate-Ciba) (Table I). With progesterone (Proluton-Schering) no enhancement of ovarian weight occurred. In all instances the histologic picture of the ovaries was the same as that found when the chorionic hormone was given alone and showed developing graafian follicles,

corpora lutea and hypertrophy of the interstitial cells.

If the order in which the hormones were administered was reversed, namely the chorionic hormone on the first day and stilbestrol on the second, there was no increase in the ovarian weight (Table II). However, a considerable increase was obtained when progesterone was given on the second day (Table II).

Summary. The preliminary administration of high dosages of stilbestrol, estrone, estradiol benzoate and estradiol dipropionate resulted in a marked increase in the ovarian weights of immature rats induced by a chorionic gonadotrophin. The control series were given sesame oil, cottonseed oil, pregnenolone, cholesterol or progesterone. The increase also did not occur if stilbestrol was administered after, instead of before, the chorionic hormone. Although progesterone did not produce increased ovarian weight when given before, a marked enhancement did result when it was administered after, the chorionic hormone.

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Relative Role of Milk Agent and Tissue Sensitivity in Estrogen-Induced Mammary Growth.* (18819)

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The response of the mammary gland to estrogenic stimulation varies in different strains of mice(1,2). Whether or not the

presence of the milk agent is correlated with these differences is still a moot question(3-5). The following experiments constitute another attempt to contribute to the solution of this problem.

Material and methods. Ninety-eight sexually immature mice of closely inbred strains were ovariectomized at the age of 4 to 5 weeks and kept on a standard diet of Purina Laboratory Chow and water *ad libitum*. Thirty-one mice of strain Z (C_3H)—15 with the agent (Z) and 16 without it (Zb)—28 mice of strain

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