These survivors comprised the total treated group of one test, whereas the 27 controls in this series sickened with a mean incubationary period of 11.0 days. Antirabic rabbit-serum was utilized in this experiment alone, goat's serum being employed in the other instances. All mice which were treated with goat's serum died but their mean incubationary period was lengthened to 14.5 days.

9606

Effects of Splenectomy on Pituitary Gonadotropic Substances.

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The recent reports of Gordon, *et al.*,[1] that splenectomized young rats are far more responsive than normal rats to continued treatment with the gonadotropic substance from pregnant urine, leads one to wonder if this is a specific reaction for such extracts or whether the same results could be obtained with pituitary glands.

Young female albino rats 25 days of age were given one male rat pituitary gland as a graft in the leg muscles or intraperitoneally each 5 days for a period of 25 days (either method of grafting gives the same result).[2] At 50 days of age they (Group A. Table I) were castrated and the ovarian weights compared to those from rats with identical treatment except that total splenectomy was performed at 25 days of age (Group B, Table I). These weights averaged 199 and 207 mg. respectively. The range was large in both as shown in Table I and this also is apparent in the large coefficient of variation. Therefore the mean difference divided by the standard error of the difference is not significant, the figure being only 0.2 (Table I) instead of 3 or more.

In a third group (Group C) the recipient rats were splenectomized, grafted with one male rat pituitary gland and castrated 5 days later. The ovaries weighed 18.4 which is similar to the 17.4 mg. obtained in Group D which were grafted but not splenectomized. Thus splenectomy had no apparent effect on the response of the ovaries to pituitary implants of 5 days duration.

In the last group the donors were splenectomized 3 weeks before

[1] Gordon, Albert S., PROC. SOC. EXP. BIOL. AND MED., 1937, **36**, 484; *Science*, 1937, **86**, 62.

[2] Emery, Frederick E., *Am. J. Physiol.*, 1937, **118**, 316.

TABLE I.

Ovarian weights in milligrams. All groups started at 25 days of age.
Groups A and B castrated 25 days and all other groups 5 days after the first implant.

Groups	Types of Donors	Recipients and Weights of Ovaries						
		No. of Rats	Splenectomized	Range	Mean	Median	Mean Diff. / S.E. of Diff.	Coef. of variation
A	Normal ♂	16	no	26 to 479	199.1	142	0.2	67
B	" "	17	yes	46 to 489	207.4	206		61
C	" "	12	yes	9 to 42	18.4	21		48
D	" "	25	no	9 to 52	17.4	15	0.2	58
E	Splenectomized	12	no	9 to 40	18.0	13		42

they were sacrificed for the pituitary glands. The response of the ovaries of the recipients to one male rat pituitary was again not unlike the normal, the figures for the mean ovarian weight being 18.0 and 17.4 mg., respectively, in the two groups (Groups E and D, Table I). The range of ovarian weights is likewise similar in the two groups as is also the coefficient of variation. If emaciation occurs the testes may degenerate and cause a more potent pituitary but in these rats such extreme symptoms were not observed.

Gordon, *et al.*, explained their results as due to lack of anti-hormone formation in the splenectomized recipients. This allowed larger ovarian growth to occur. After a young rat has been stimulated to sexual maturity with pituitary grafts there supervenes an inhibition to further positive vaginal smears for a variable time depending upon the potency of the original grafts. A second graft during this period of inhibition produces ovarian growth but frequently no cornification of the vagina.[3] Whatever mechanism involved may be it was not altered by splenectomy in the groups shown in Table I. Each rat was subjected to 4 grafts after the first one at 5, 10, 15, and 20 days respectively. In Group A the total number of such occurrences was 64, of which 35 gave positive vaginal smears and 29, or 45%, were negative. In the splenectomized rats (Group B) the total number of such tests was 68, of which 23 were positive and 45, or 66%, were negative. The splenectomized rats were in this experiment equally or even more refractory than the normal recipients in vaginal reaction following each pituitary graft.

Summary. Tests with pituitary grafts of minimal strength failed to show that splenectomy was concerned with: (1) summation effects of ovarian weights produced by repeated grafts over a period of 25 days, (2) the amount of ovarian response obtained at the end of 5 days, (3) the potency of the pituitary gland of the donor, or (4) the inhibition of estrus following sexual maturity induced by pituitary grafts.

[3] Emery, Frederick E., *Endocrinology*, 1933, **17**, 64.