gest differences in susceptibility of different litters of suckling mice used for the primary isolation of Coxsackie viruses. It is suggested that at least 2 litters including a total of 12 to 15 suckling mice be used for demonstrating Coxsackie viruses in clinical specimens.

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Augmentation by Pregnant Mares' Serum of Body Weight Response of Male Turkeys to Testosterone Propionate. (18778)

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In connection with experiments directed toward quite different ends, testosterone propionate has been observed to exert a greater effect on body growth of male turkeys when administered concurrently with pregnant mares' serum than in absence of this gonadotrophin. The capacity of androgens to stimulate somatic growth under certain conditions is well established(1-4), and testosterone propionate has been shown to act synergistically with pituitary growth hormone in this respect (5). Enhancement of the androgen-induced growth response by pregnant mares' serum, itself without effect on growth in these tests, seems however not previously to have been reported.

Materials and procedures. The experimental stocks consisted of 18 immature Broad Breasted Bronze and an equal number of mature Beltsville Small White male turkeys. The younger birds were 111 ± 7 days of age at the beginning of tests, close to 100 days from sexual maturity. The mature turkeys, 16 months old when placed under test, had entered the period of declining sexual activity some 3 months earlier, upon completion of their first breeding season. Seasonal quiescence in such males is associated with loss of body weight, and resurgent sexual activity with increasing weight(6). Insofar as latent capacity for increase in body weights is concerned, the immature and the mature males were thus much alike qualitatively.

The birds of all test groups were maintained under identical conditions; they were well housed, and had access to ample outside runs. Feed was available *ad libitum*. Treatment was carried out in 2 stages. During the first period of 22 days all the birds except uninjected controls received 7 injections of PMS, 200 rat units at each injection. At the termination of this period, testosterone propionate was administered to designated groups with and without continuing PMS injections; details are recorded in Table I. All birds were sacrificed at termination of secondary treatments, at which times their testes were removed and weighed. Body weights were taken at intervals from the beginning of tests until autopsy. The PMS* preparation, a solution containing 50 rat units per ml, was injected subcutaneously into the anterior cervical region. Testosterone propionate was dissolved in corn oil, 5 mg per ml, and was injected subcutaneously at alternate breast sites on successive days.

Results. The administration of PMS dur-

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* "Gonadin Serum," Cutter Laboratories, Berkeley, California. Crystalline testosterone propionate was generously furnished by the Research Department, Ciba Pharmaceutical Products, Summit, N. J.

TABLE I. Body and Testes Wt of Uninjected and PMS Control Turkeys, and of Birds Receiving TP or PMS + TP During Periods of Secondary Treatments.

No. Turkeys	Treatment* Primary 22 days	Treatment* Secondary†	Body wt Initial, kg	Body wt Final, kg	Gain kg	Gain %	Wt of testes, g
		Immature males					
5	0	0	6.02	7.34	1.32	21.9	.85
5	PMS	PMS	6.64	7.86	1.22	18.1	2.46
4	"	TP, 2.5 mg	6.65	8.73	2.08	31.3	.77
4	"	PMS + TP, 2.5 mg	6.64	9.17	2.53	38.1	3.57
		Mature males					
4	0	0	8.82	8.84	.02	<.01	2.87
4	PMS	PMS	8.61	8.50	-.11	<-.02	5.40
5	"	TP, 10 mg	8.32	9.46	1.14	13.7	2.94
5	"	PMS + TP, 10 mg	8.37	10.02	1.65	19.7	2.05

* Treatment: Primary—PMS to avg 65 R.U. daily. Secondary—PMS, 200 R.U. every other day; TP daily as indicated.

† Periods of secondary treatment were 26 days for the immature males, 16 days for the mature males.

ing the period of pretreatment had little or no effect on body weights, a result in accord with earlier findings of Schooley, Riddle, and Bates(7).

Body weight responses under the several conditions of secondary treatment are summarized in Table I, together with testes weights at autopsy. Testes weights of the younger males at maturity and of the older males on resumption of sexual activity would have exceeded 25 or 30 g; the gonadal stimulation due to PMS treatment was accordingly moderate.

The potentiating action of PMS is best seen in Fig. 1 and 2. In the immature birds the effects of testosterone propionate and of the androgen plus PMS are of course superimposed on normal growth increases of considerable magnitude, and it is perhaps notable that rate of growth under PMS + TP (Fig. 1) almost exactly doubles this normal rate. Of more interest here, however, is the definitive augmentation by pregnant mares' serum, in the form used, of the androgen-induced increases in body weights, both in the immature and mature birds.

Discussion. Although pregnant mares' serum was without appreciable effect on body weights, we cannot assume that pretreatment with this preparation did not play some part in determining the subsequent responses to testosterone propionate, or to the androgen + PMS. It is to be noted also that augmentation of body weight responses to testosterone propionate was obtained with a preparation of pregnant mares' serum of known gonadotrophic potency, but containing much besides gonadotrophin; one may accordingly ask whether the observed augmentation is to be ascribed to gonadotrophin or to some other substance carried by the serum. Experiments designed to clarify these points are now in progress. There is little point in further com-

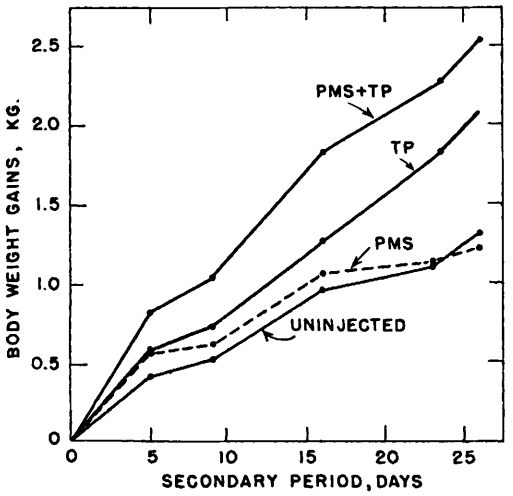

FIG. 1. Body wt gains of immature male turkeys following administration of testosterone propionate (TP), and of pregnant mares' serum with the androgen (PMS + TP); the lower curves show body wt changes of uninjected and PMS injected control groups.

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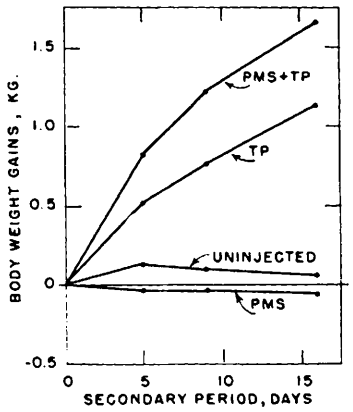

FIG. 2. Body wt gains of mature but sexually inactive male turkeys following administration of testosterone propionate (TP), and of pregnant mares' serum with the androgen (PMS + TP); also, body wt changes of uninjected and PMS injected control birds.

ment until the outcome of these tests is known, attractive though some possible implications of a gonadotrophically conditioned augmentation effect may appear to be.

Summary. Following preliminary treatment with pregnant mares' serum, body weight responses of immature and mature, but sexually inactive, male turkeys to testosterone propionate were considerably augmented when the androgen was administered concurrently with pregnant mares' serum. The serum alone was without appreciable effect on body weight. Whether the observed augmentation is an effect of gonadotrophin or of some other constituent of the serum is not known.

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Sustained Enhanced Growth of Carcinoma EO771 in C57 Black Mice. (18779)

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Injection of lyophilized or long frozen Eo-771 tumor tissue 10-15 days prior to the transplantation of the same tumor renders heterologous(1,2) and homologous(3) hosts more susceptible to the growth of the homologous tumor transplants. This lyophilization(1,2) or XYZ factor(4) has been shown to be specific(3). Previous reports have not considered whether the tendency to enhanced growth induced by the XYZ factor might persist through successive transplant passages from such a treated animal. The present paper reports 17 experiments with 2-6 animal passages of the tumor from an XYZ injected animal, and compares the growth of the secondary passage tumors with a series of control and a series of first passage XYZ tumors.

Materials and methods. The animals employed were 529 C57 Black mice received from Carworth Farms† in batches of 30 and 60 over an 18-month period. Each batch was of same age and sex and were divided immediately into groups of 10, numbered and housed in standard mouse boxes for 1-4 months before use. The animal quarters were

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† Carworth Farms, New City, N. Y.