

ulated) in which the body weights have been held constant by heavy feeding with desiccated thyroid we found that our sarcoma in all rats increased in size until the animals died.

In our entire series of thyroparathyroidectomized rats inoculated with a spindle-cell sarcoma the tumors completely regressed in 33.3%. In controls none regressed.

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Gonadotropic Excretion in the Male Castrate. Effect of the Male Sex Hormones.

ROBERT T. FRANK AND U. J. SALMON.*

From the Laboratories of the Mount Sinai Hospital, New York City.

Our studies on female castrates showed a great increase in gonadotropic hormone excretion in the urine.¹ Two male castrates have now been investigated. In both patients bilateral orchidectomy had been performed for tuberculous epididymitis. In the first patient (L.D.) castration was performed 5 years ago, in the second (L.S.) 8 years ago. In the 1st patient, within 1 week of the operation, severe flushes and sweats occurred and have persisted. The 2nd has suffered from no symptoms.

Gonadotropic hormone urine determinations by the acetone precipitation method² were performed on L.D. for a preliminary period of 22 days. Both follicle stimulating and luteinizing factors were found in the urine. The daily output of follicle stimulating factor varied from 4 to 18 rat units per day; of lutein factor from 4 to 7½ rat units per day. In the second patient, 5 random 48-hour urine specimens were examined. The daily output of lutein factor varied from 4 to 8 R.U. The gonadotropic hormone effects produced in the test rats by the urine of these male castrates differed in no way from the effects obtained from the urine of female castrates.

In female castrates the administration of 20,000 to 25,000 R.U. of Progynon B regularly produced prompt disappearance of the

* Hiram N. Vineberg Fellow in Gynecology.

¹ Frank, R. T., Salmon, U. J., and Friedman, R., *PROC. SOC. EXP. BIOL. AND MED.*, 1935, **32**, 1666.

² Frank, R. T., and Salmon, U. J., *PROC. SOC. EXP. BIOL. AND MED.*, 1935, **33**, 311.

gonadotropic hormone excretion from the urine with full, temporary relief of symptoms.² In the male castrate, L.D., 25,000 R.U. of Progyon B afforded no relief.

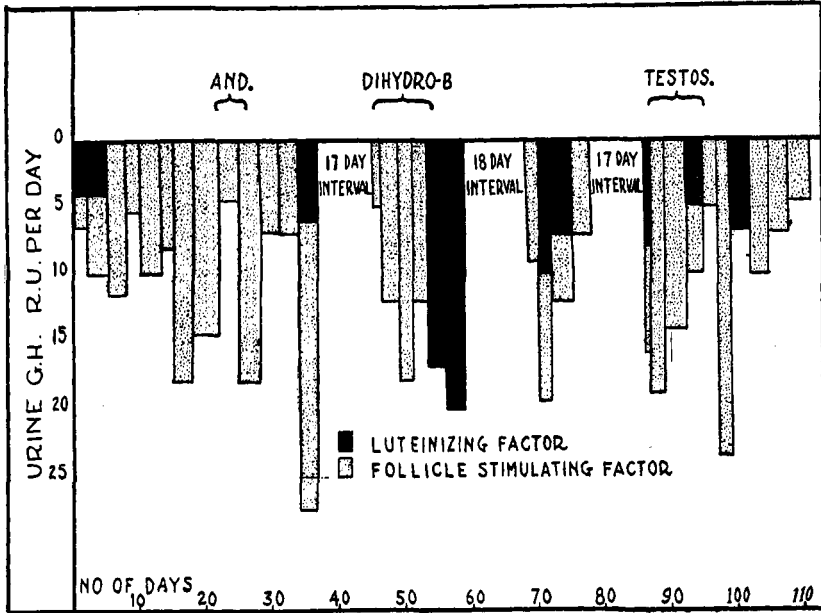


FIG. 1.

Graph of Gonadotropic Factors Excreted by a Male Castrate.

Observation period 112 days.

And. = Androsterone (20 mg.)

Dihydro-B = Dihydro-androsterone Benzoate (25 mg.) (500 capon units).

Testos. = Testosterone (115 mg.)

Several months later, L.D. was given intramuscular injections of Androsterone, Dihydro-androsterone Benzoate and later Testosterone over periods and in amounts noted on the accompanying graph. These substances were obtained through the kind cooperation of Dr. E. Schwenk and Dr. Gregory Stragnell of the Schering Corporation of New Jersey. No appreciable diminution of the gonadotropic hormone excretion was noted and only very slight improvement in the flushes was reported by the patient during the course of injection.