

TABLE I.
Absorption of NaCl-Na₂SO₄ in Small Intestine Following the Method of Visscher.

Body wt, g	Time, min.	Volume, cc		Chloride, mM/L			Sodium, mM/L			Notes
		Begin	End	Intro.	Found	% Abs.	Intro.	Found	% Abs.	
170	80	5.0	0.7	78.5	33.0	94.0	191.0	243.0	81	(1)
141	80	4.0	1.0	78.5	33.2	90.0	191.0	191.0	76	(2)
140	40	4.0	1.0	78.5	66.3	79.0	191.0	184.0	70	(3)
181	80	5.0	5.0	78.5	107.8	—	191.0	159.0	20	(4)
193	80	5.0	3.9	78.5	91.3	10.6	191.0	174.0	41	(5)
187	80	5.0	1.4	78.5	45.2	81.0	191.0	143.6	80	(6)
158	70	4.0	2.1	78.5	79.0	47.4	178.5	163.2	55	(7)

Notes:

- (1) Semi-adrenalectomized.
- (2) Maintained 4 weeks on vitamin B-free diet; loss in body weight 20 %.
- (3) Thyroidin admin. for 14 days in daily dose of 10 mg.
- (4) 20 days after adrenalectomy.
- (5) 2 " " " " " "
- (6) 7 " " " " " , 1 mg desoxycorticosterone 3 days before exp.
- (7) Addition of 1/10,000 parts monoiodoacetate.

loss of weight. For the ultimate identification of the energy-yielding reaction it is of interest to note that a 1/10,000 solution of monoiodoacetate completely inhibited all ion resorption against the direction of the gradient. Thyretotoxic animals do not show clearcut deviations from normal in regard to resorption.

At this stage of our investigations, the study of Dennis and Wood¹¹ which reports experiments with adrenalectomized dogs in both the acute and chronic condition and yielded results similar to those obtained by us was published. We are, therefore, able to offer full confirmation of the results obtained by these authors.

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**Production of Azoospermia in Man from the Use of
 α -Estradiol Benzoate (Progynon-B).***

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This preliminary report deals with the effect of α -estradiol benzoate upon spermatogenesis in a 72-year-old man, who has been

¹¹ Dennis and Wood, *Am. J. Physiol.*, 1940, **129**, 182.

* α -Estradiol Benzoate was generously supplied by the Schering Corporation under the trade name of "progynon-B."

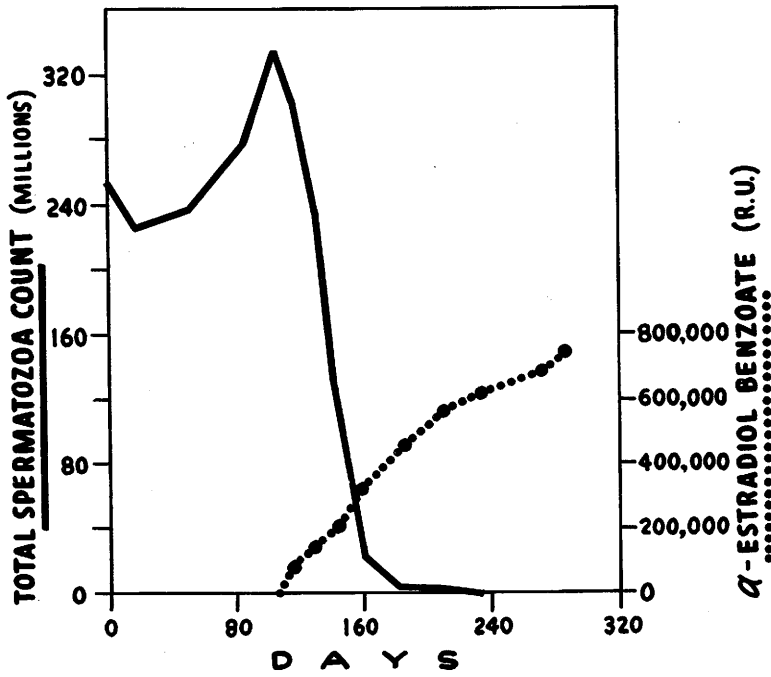


FIG. 1.

under observation since August, 1939, because of an enlargement of the prostate gland. He received subcutaneous injections of 6,000 to 10,000 rat units of this material 4 to 6 times a week for 26 weeks. The graph illustrates the effect upon the number of spermatozoa. Five spermatozoa counts were made over a period of 105 days before the injections of α -estradiol benzoate were started. After the patient had received a total of approximately 300,000 r.u. in 51 days a striking decrease in the number of spermatozoa occurred. As the treatment was continued, the number of spermatozoa further decreased until an azoospermia developed by the 129th day of treatment, when a total of 631,000 r.u. had been administered.

It is of interest to know that male sex hormone in the form of testosterone propionate when given in daily injections of 25 mg over a prolonged period of time will likewise produce an azoospermia in man.¹

The determination of the number of spermatozoa in the artificially ejaculated specimens was obtained by counting them on a blood counting chamber, after diluting them in a white blood pipette with a solution of 5% soda and 1% formalin in water, calculating the number in cubic millimeters by the method used to determine a

¹ Heckel, Norris J., *J. Urol.*, 1940, **43**, 286.

white blood count, multiplying the result by 1000 to obtain the number per cubic centimeter, and then multiplying the result by the number of cubic centimeters of semen.

It has previously been observed that in the rat, atrophy of the testes is caused by prolonged injections of large doses of α -estradiol benzoate.² Also, in the brown leghorn cock, extreme atrophy of the testes and comb could be produced by prolonged administration of large doses of this material, but when the injections were discontinued, the comb growth took place and the testes increased in size.³

Summary. The subcutaneous injection of 6,000 to 10,000 r.u. of α -estradiol benzoate, 4 to 6 times weekly, for 26 weeks, produced an azoospermia in a 72-year-old man. The duration of treatment, the daily dosage, and the variation in the spermatozoa counts are presented in the graph.

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Cultural Characteristics of *Pityrosporum ovale*—A Lipophylic Fungus. Nutrient and Growth Requirements.

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In an earlier paper¹ the successful cultivation of *Pityrosporum ovale* was reported. The addition of fats to the basal medium, wort agar, was found necessary to obtain subcultures. Of the pure fatty acids tested oleic gave the best results. Oleic acid was used by Fleming² for cultivation of the acne bacillus and has since been used in a number of bacteriological media. Cohen and Mueller³ have recently shown its importance for *C. diphtheriae*. However, the *Pityrosporum* is probably the first microorganism reported to need fats or fatty acids as an indispensable factor for growth. Consequently further study of its nutritional requirements seemed worthwhile.

A simple solution devised by Currie for the study of the citric

² Del Castillo, E. B., et Sammartino, R., *C. R. Soc. de Biol.*, 1938, **129**, 870.

³ Emmens, C. W., *J. Physiol.*, 1939, **95**, 379.

¹ Benham, R. W., *J. Invest. Dermat.*, 1939, **2**, 187.

² Fleming, A., *Lancet*, 1909, 1035.

³ Cohen, Sydney, and Mueller, J. Howard, *PROC. SOC. EXP. BIOL. AND MED.*, 1940, **45**, 244.