grafts resident in mature female hosts. These gonads give approximately the same ratio as obtained in the male hosts, eliminating the possibility of explaining the results on the basis of a hormone action. Only one acceptable explanation can be advanced, namely that the developing gonad has the ability to differentiate according to its zygotic determination, even in the presence of adult sex hormones. This self-differentiating potency is not, however, equal for the medullary and cortical components. The medulla of the differentiating gonad has a greater capacity for self-differentiation in the experimental environment than the cortical area. Willier[3] by transplanting undifferentiated gonad primordia of chick embryos to the chorio-allantoic membrane of host embryos has observed self-differentiation of the gonad grafts independent of the hormones of the host.

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Excretion of Estrin in Acne.

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On clinical grounds it has long been suspected that acne vulgaris is caused by some endocrine disturbance—presumably by disturbance of the gonads (Pick,[1] Hollander,[2] Schamberg,[3] Darier,[4] Bloch,[5] Stein,[6] and others). The appearance of acne usually coincides with the endocrine changes for the sexual maturity associated with puberty. Only in exceptional instances is there any evidence that these changes are abnormal as for example, the case cited by Bloch in which acne appeared in the first years of life when (owing to suprarenal tumor) sexual maturity was precociously developed.

It seemed to the writers that evidence of normality would be

[3] Willier, B. H., *J. Exp. Zool.*, 1927, **46**, 409.

[1] Pick, *Arch. f. Dermat.*, 1921, **131**, 350.

[2] Hollander, *Arch. Derm. and Syph.*, 1921, **3**, 593.

[3] Schamberg, *Arch. Derm. and Syph.*, 1921, **4**, 293.

[4] Darier, *Precis de Dermatologie*, Masson et Cie, 1928, 508.

[5] Bloch, *Brit. J. Derm.*, 1932, **43**, 61.

[6] Stein, *Handbuch der Hautkrank.*, 1932, **13**, 81.

tested by a study of the excretion of estrin and prolan in women with acne. Previous studies[7] have shown that normal women between the ages of sex maturity and the menopause excrete from 10 to 20 rat units of estrin per liter of urine throughout the menstrual cycle. Prolan is not found by the methods here employed in such cases.

The urines of 34 young women who applied to Vanderbilt Clinic for treatment of acne were examined. The age range was 11 to 33 years, 21 being under 20 years of age. Estrin was determined by the method of Kurzrok and Ratner,[8] and prolan by the method of Zondek.[9]

Ovarian hormone was completely absent in 27 of these cases, present in normal amounts (10-20 rat units) in 6 cases, and slightly positive in one case (4 rat units).

Work has not progressed to a stage from which final conclusions can be drawn, and the results of treatment with preparations of ovarian follicular hormone and anterior pituitary prohormone will be reported later, but a number of patients who formerly excreted no hormone were found to be excreting hormone after treatment.

The consensus of opinion of those who have studied the question is that oestrin is present with considerable regularity in the urine of normal women throughout their menstrual life. Three individuals studied with frequently repeated tests gave the following results:

Normal No. 1, age 27, six days out of one week all specimens showed oestrin varying from 3 to 6 R.U.

Normal No. 2, age 35, examined on 33 days out of 7½ consecutive weeks, 30 specimens were positive showing from 3 to 18 R.U. of oestrin. Three specimens were negative.

Normal No. 3, age 30, examined 28 days out of 30, 18 specimens were positive showing from 4 to 9 R.U. Two specimens showed less than 9 R.U. and 8 specimens were negative.

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[7] Kurzrok, *N. Y. State J. Med.*, 1932, **32**, 1287.

[8] Kurzrok and Ratner, *Am. J. Obs. and Gyn.*, 1932, **23**, 689.

[9] Zondek, *Z. Gynak.*, 1929, **53**, 1, 834.