

TABLE

For a description of the technique we refer to a former publication². The readings were taken after 2 hours at room temperature. The antigens were used in a dilution of 1:500 of a 5 per cent solution.

Immune sera for azo-proteins made from horse serum and	Antigens prepared from chicken serum and:			
	levo- p-amino- tartranilic acid	dextro- p-amino- tartranilic acid	levo- p-amino- malanilic acid	dextro- p-amino- malanilic acid
levo- p-amino- tartranilic acid	+±	0	+	tr
dextro- p-amino- tartranilic acid	0	+±	0	+

From the tests one may conclude that there is a correlation between the tartaric and malic acids which rotate polarized light in the same sense. Freudenberg and Brauns⁷ correlated d-tartaric acid to d-malic acid by converting the former into monoacetyl-tartaric acid-dimethylester, acetyl-chloromalic acid-dimethylester, chloromalic acid and finally into d-malic acid. The fact that the same result has been arrived at by the use of immune sera seems to confirm the applicability of the serological method to questions of spatial configuration.

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Production of Experimental Endometrial Hyperplasia.*

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Endometrial hyperplasia has been known in this country since 1900, when it was described by Cullen¹. Schroeder's² conclusion that endometrial hyperplasia was due to changes in the ovary resulting from a deficiency of the corpus luteum has been amply con-

⁷ Freudenberg, K., and Brauns, F., *Ber. D. Chem. Ges.*, 1922, **55**, 1339.

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¹ Cullen, T. S., *Cancer of the Uterus*, Philadelphia, 1900.

² Schroeder, Robert. *Arch. f. Gynak.*, 1921, **98**, 81.

firmed. Fluhmann³, and Burch, Williams, and Cunningham⁴ have studied the condition from the hormonal standpoint, and consider that the endometrial pathology is due mainly to the action of oestrin. While in their experiments⁴ the cellular changes of endometrial hyperplasia were faithfully reproduced, the characteristic gland pattern was lacking. This gland pattern, the most striking feature of the condition, was considered less important than the cellular changes. The characteristic gland pattern was experimentally produced and recognized as such by Hofbauer⁵. He repeatedly implanted anterior lobe substance in guinea pigs with intact ovaries. It is impossible to evaluate the relative effects of hypophyseal and ovarian hormones, as the formation of the ovarian hormones would be stimulated. The inference is clear that oestrin must be the major factor, as the hormone of the corpus luteum exercises little or no effect on an endometrium unless sensitized by oestrin.

To test further this conception of the etiology of endometrial hyperplasia, a series of 24 spayed guinea pigs and 20 spayed rats were given varying amounts of oestrin over relatively long periods of time. Sections of the uteri of these animals were removed at stated intervals during the injection period.

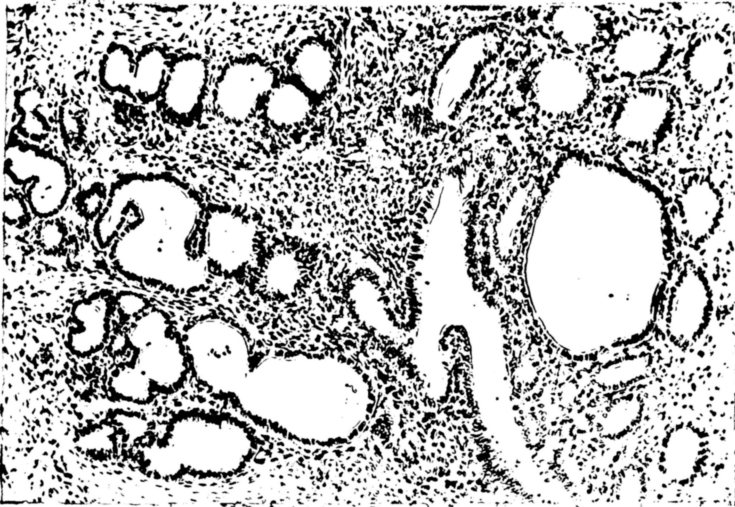


FIG. 1.

³ Fluhmann, C. F. *Surg. Gyn. and Obstet.*, 1931, 52, 1051.

⁴ Burch, J. C., Williams, W. L., and Cunningham, R. S. *Surg. Gyn. and Obstet.*, 1931, 53, 338.

⁵ Hofbauer, J., *Surg., Gyn. and Obstet.*, 1931, 52, 222.

A large percentage of the guinea pigs which received the oestrin injections exhibited uteri in which the cellular and glandular picture was identical with that found in human hyperplasia. The glands, many of which were cystic, were very prominent throughout the greatly thickened mucosa. Figure 1 shows that these specimens were quite similar to the typical Swiss-cheese pattern found in human cases. As a rule, this picture was found in the uteri of guinea pigs which had received from 10 to 50 units of oestrin daily for 8 to 15 days.

In guinea pigs it was possible to induce both the glandular and cellular change of hyperplasia of the endometrium in all of the animals injected. In rats, the cellular changes were easily induced, but we were able to produce cystic dilatation of the glands in only 40% of the animals studied.

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Bactericidal Property of an Ultra-Violet Irradiated Petrolatum-Lanolin Mixture.

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Remarkable results on purulent wounds following the use of ultra-violet irradiated petrolatum, reported by Eising,¹ prompted us to determine whether such petrolatum had any bactericidal effect *in vitro*. We used a mixture of 2 parts petrolatum molle and one part lanolin, the latter being added to increase tissue absorption of the irradiated petrolatum.

Technic. A 2:1 petrolatum-lanolin mixture was melted and rendered sterile by infra-red heat. Twenty cc. of the mixture were placed in sterile petri dishes and irradiated directly for varying periods of time by a Burdick ultra-violet lamp at a distance of 12 inches. At the end of the time allotted for exposure 1 cc. of a normal saline suspension of organisms was thoroughly mixed with the petrolatum-lanolin. At varying intervals thereafter one loopful of the inoculated mixture was seeded on agar plates and the growth noted. For control we used: (1) Non-irradiated petrolatum-lanolin to which organisms had been added; (2) Petrolatum-lanolin to which organisms had been added before irradiation; (3) Petrola-

¹ Eising; E. H., *Annals Surg.*, 1931, **43**, 123.