

change. Further, the hemoglobin and red cell count are not sufficiently altered to show specific lesions in vitamin A deficient animals.

It is believed that anemia does not result from lack of vitamin A.

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A Test to Differentiate Irradiated Cholesterol From Non-Irradiated Cholesterol and Irradiated Ergosterol From Non-Irradiated Ergosterol.

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Cholesterol dissolved in chloroform gives with a mixture of sulphuric and selenious acids (125 mg. of sodium selenite in 25 cc. of concentrated sulphuric acid) a purple color in the upper chloroform layer and a red-brown color in the lower acid layer, which displays no green fluorescence.¹ Solid cholesterol, irradiated with the mercury arc lamp for 30 minutes at a distance of 16 inches, when dissolved in chloroform gives with the sulphuric and selenious acid mixture a dark wine-red color in the chloroform layer, and a still darker wine-red color in the acid layer with the absence of green fluorescence. This reaction takes place in the 1.0% and in the 0.5% solution. In the 0.25%, 0.10%, 0.025% and 0.01% solutions the color reaction is negative. The chloroform layer is more or less purple, while the acid layer is brown and free from fluorescence.

Ergosterol, non-irradiated and dissolved in chloroform, gives with sulphuric acid a colorless chloroform layer and a brownish red, cherry red or orange color in the acid layer in direct light and a green fluorescence in transmitted light.² With the sulphuric acid-selenious acid mixture the chloroform layer also remains uncolored, while the acid layer gives a brown color in direct light and no green fluorescence in transmitted light.

Solid ergosterol, irradiated with the mercury lamp for 30 minutes at a distance of 16 inches, dissolved in chloroform and treated with

¹ Levine, V. E., and Richman, E., *PROC. SOC. EXP. BIOL. AND MED.*, 1930, xxvii, 832.

² Levine, V. E., and Richman, E., *PROC. SOC. EXP. BIOL. AND MED.*, 1930, xxvii, 833.

sulphuric or sulphuric-selenious acid, gives a greenish blue color in the chloroform layer in the 1.0% and in the 0.5% solution. The acid layer, however, does not differ in color from that obtained with non-irradiated ergosterol. In the 0.25%, 0.1%, 0.025% and 0.01% solutions of irradiated ergosterol the color responses were the same as those obtained with the same concentrations of non-irradiated ergosterol.

Irradiated cholesterol and irradiated ergosterol give in 1.0% and 0.5% chloroform solutions tests different from those obtained with the same sterols non-irradiated. Lower concentrations of the irradiated sterols give the same tests as the non-irradiated substances. These facts argue for the possibility that irradiation has produced a new compound which is present in small quantities in the higher concentrations, but which is absent altogether or present in too low a dilution to give the test in the lower concentrations.

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Stimulating Influence of the Anterior Pituitary Upon the Squamous Epithelium of the Cervix Uteri.

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The immediate and later results upon the ovaries and the uterus of the implantation of anterior pituitary substance, or of the injection of its growth-hormone into rodents (rat, mouse), as well as in dogs, has of late been extensively described in the literature. The acceleration of both the maturation of follicles and the formation of corpora lutea, as well as the hypertrophy of the uterine musculature under these conditions have recently been established by important experimental studies. (Evans,¹ Smith and Engle,² Zondek and Aschheim,³ Putnam⁴) All of these investigators agree concerning the stimulating effect of the hormonal principle on the tissues enumerated.

In the present study evidence has been obtained indicating that an overgrowth of the squamous epithelium covering the vaginal

¹ Evans, H. M., *Harvey Lectures*, 1924, xix, 212.

² Smith, P. E., and Engle, E. T., *Am. J. Anat.*, 1927, xl, 173.

³ Zondek, B., and Aschheim, S., *Klin. Wochensh.*, 1927, vi, 323.

⁴ Putnam, S., *Archiv. Surg.*, 1929, xviii, 1708; *Am. J. Med. Sciences*, 1930, lli, 244.