

8502 P

Local Uterine Growth in Untreated Ovariectomized Rabbits.*

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Two principal conditions favor uterine growth, (1) hormonal, such as occurs in the presence of oestrone¹ and progesterone,² and (2) local, such as is observed in the gravid horn of a unilateral pregnancy. The growth of such a cornu is much greater than that which takes place in the non-gravid horn exposed to the identical hormonal environment.³ The difference has been ascribed to the presence of the fetuses. Local uterine growth is also observed when, during pseudopregnancy, a uterine cornu is distended with rolled rubber dam.⁴ Thus the 2 growth factors may be said to be essentially *hormonal* and *physical*. The present note is concerned with experiments in which an isolation of these factors is achieved, and uterine growth induced by physical factors alone in the absence of ovarian hormonal influence.

The procedure is as follows: mature rabbits are ovariectomized at the end of a week of pseudopregnancy, at which time the uteri of the various animals are in comparable structural states. After one week of castration paraffin pellets (m.p. 54°) of 2 sizes ($\frac{1}{8}$ " and $\frac{1}{4}$ " diameter, respectively, and $\frac{1}{2}$ - $\frac{3}{4}$ " in length) are inserted *per vaginam* into a uterine horn and anchored there by a loose stitch at each end of the pellet. Control sections of uterine tissue are distended, excised and fixed in formol-acetic fixative solution. The pellets are left *in situ* for 2 weeks, at the end of which time the rabbits are opened, the distension site excised and fixed. Control sections are again taken for comparison with the site of chronic distension.

In each of 11 experiments it has been found that, in the absence of ovarian hormonal influences, marked uterine enlargement occurs.

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¹ Allen, E., *J. Am. Med. Assn.*, 1935, **104**, 1498.

² Corner, G. W., *J. Am. Med. Assn.*, 1935, **104**, 1899.

³ Knaus, H. H., *Arch. f. Gynäk.*, **141**, 395; Hammond, J., *Trans. Dynamics of Development*, 1935, **10**, 93; Markee, J. E., and Hinsey, J. C., *Anat. Rec.*, 1934-35, **61**, 311.

⁴ Van Dyke, H. B., and Gustavson, B. G., *J. Pharmacol. Exp. Therap.*, 1929, **37**, 379.

The muscle cells undergo hypertrophy, connective tissue increases and dilatation of the small vessels takes place. The endometrium, after 2 weeks of chronic distension, is in a state of active proliferation but contains no secreting cells. These changes take place concurrently with some atrophy in non-distended portions of the same uterus. Thus it is evident that physical distension of the type employed here is, *per se*, a potent stimulus for local uterine growth. Details of the histological changes found in these experiments will be described elsewhere with an account of the action of oestrone and progesterone under similar conditions. A correlation of the degree of growth with the degree of distension will also be made at that time.

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Electrocardiographic Changes Following Coronary Sinus Occlusion in the Dog's Heart.*

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The only report available on electrocardiographic changes following experimental coronary sinus obturation is that published by Otto.¹ All of the dogs studied, however, had had section of extra-cardiac nerves.

During the course of experimental attempts to increase the blood supply to the heart^{2, 3} we have studied the electrocardiographic findings in 66 dogs before, during, and at various intervals of time up to 4 weeks after partial or complete occlusion of the coronary sinus. This occlusion was produced by ligation or by the injection of escharotics into or around the mouth of the coronary sinus. Twenty-five dogs showed a completely obturated coronary sinus at autopsy, 11 of these having been produced by ligature alone. In 26 dogs the obturation was partial. In 15, the same procedures were employed but no obturation was produced. The electrocardiographic findings in these dogs therefore serve as controls.

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¹ Otto, L. H., *Am. Heart J.*, 1928, 4, 64.

² Gross, Louis, and Blum, Lester, *Proc. Soc. Exp. Biol. and Med.*, 1935, 82, 1578.

³ Blum, Lester, and Gross, Louis, *Am. J. Thor. Surg.*, in press.