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, **32**, 1578.

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

Following obturation of the coronary sinus, the entire heart dilated, the veins became engorged and the left ventricle became cyanotic up to and slightly beyond the interventricular grooves. Occasionally, ecchymotic spots appeared over the left ventricle. The right ventricle maintained its normal color except for a strip adjacent to the interventricular grooves.

The minimal consistent electrocardiographic changes following such obturation were found to be:

1. Elevation of the RT transition.
2. Notching and downward direction of the main QRS deflection.
3. Inversion of the T-wave.
4. Temporary slowing of the heart rate.

The slowing of the heart rate lasted for a few minutes. The other changes tended to return to normal within 2 to 4 weeks. Partial heart block was noted twice. High T-waves were occasionally seen after the first week. Elevation of the RT transition was practically a constant finding. Downward direction and notching of the main QRS deflection occurred frequently. Inversion of the T-wave occurred occasionally.

When obturation of the coronary sinus was incomplete, the above mentioned electrocardiographic changes were inconstant. Electrocardiographic changes following deliberate or accidentally unsuccessful ligation of the coronary sinus were very infrequent.

It is suggested that the electrocardiographic changes (particularly the RS-T changes), following coronary sinus obturation may be due to myocardial ischemia attendant on venous congestion. Contributory factors may have been local injury (at the site of manipulation) together with change in position and rotation of the heart.