7740 P

Absorption from the Rabbit's Colonic Spindle (Fusus Coli) and Adjacent Sections of the Colon.

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The colonic spindle of the rabbit is an anatomical and functional modification of the gut connecting the ascending colon with the descending colon.[1] One of its functional activities is to squeeze out the liquid contents of the scybala formed in the ascending colon and to deliver these scybala, now hard and relatively dry, to the immediately adjacent descending colon.[2]

The present paper deals with the rate of absorption occurring in (1) the colonic spindle, (2) the ascending colon proximal to the spindle and (3) the descending colon distal to the spindle. A 1% solution of strychnin sulphate was used to betray absorption, the dose being 1 mg. per kilo rabbit injected into the ligated section of the gut.

The rabbits were narcotized satisfactorily by injecting 5 mg. of morphin sulphate per kilo subcutaneously. After laparotomy, a section of the ascending colon (single row of haustra) or the spindle itself, or a section of the thin walled descending colon was doubly ligated, carefully sparing the blood supply. The appropriate dose of strychnin was then injected into the lumen of the empty ligated section and the abdomen closed with 2 rows of sutures. After release, the animal was tested by tapping at 2-5 minute intervals for the development of hypersensitiveness and opisthotonos.

The ligated sections were not of equal length, in order to equalize

TABLE I.

	Ascend. Colon (2-3 cm.)	Spindle (5 cm.)	Desc. Colon (5 cm.)
Number of rabbits	6 ♂	7 ♂, 1 ♀	4 ♂, 3 ♀
Hypersensitiveness	6 (in 3-9 min.)	8 (in 5-17 min.)	7 (in 10-17 min.)
Opisthothonos	6 (in 6-17 min.)	2 (in 10-13 min.)	0
Death	4 (in 8-25 min.)	0	0
Recovery	2	8	7

None of the female rabbits were pregnant.

[1] Auer, J., *J. Pharm. and Exp. Therap.*, 1925, **25**, 140; PROC. SOC. EXP. BIOL. AND MED., 1925, **22**, 301.

[2] Auer, J., PROC. SOC. EXP. BIOL. AND MED., 1925, **22**, 331.

the absorptive areas; in the ascending colon 2 to 3 cm. lengths were ligated, while 5 cm. lengths were used in the other 2 sections. The absorptive area in the ascending colon was, therefore, if anything smaller than that in the spindle or the descending colon.

Either an autopsy or a biopsy was made on every animal to determine the condition of the ligated sections of the gut, the normality of the kidneys and of the animal in general.

The main results are shown in Table I.

The results indicate that efficient absorption of strychnin is best in the ascending colon, less in the spindle and least in the descending colon.

7741 P

A New Development in Histospectrography.*

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Histospectrography, as developed by Policard,[1] and by Gerlach and Gerlach,[2] is a method of examining the elements in tissues which consists of passing a high frequency spark through a predetermined area in a section of tissue and by means of the spectrograph analyzing the rays emitted. The spectrograms will contain the lines characteristic of the elements encountered by the spark in passing through the tissue. It has been pointed out by Policard[1] and Gerlach and Gerlach[2] that one of the greatest difficulties encountered is the selection of electrodes; not only do the characteristic lines of the major element of the electrodes appear on the spectrum, but also those of even small impurities in the metal. In the course of our experiments with the technique, a means was devised whereby the purity of the electrodes is rendered immaterial, and the choice of basic metal almost so. In fact, for all practical purposes, our spectrograms contain lines characteristic only of the tissue.

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[1] Policard, A., *Protoplasma*, 1933, **19**, 602.

[2] Gerlach, W., and Gerlach, W., *Die chemische Emissions-spectralanalyse. II Teil Anwendung in Medizin, Chemie und Mineralogie.* 1933. Voss, Leipzig.