

inoculated with fox encephalitis virus, we used a 5% ferret spleen suspension. Thirty-six days following the injection of our encephalitis virus, 3 of the 5 ferrets were inoculated with the canine distemper virus of Laidlaw and Dunkin. Two of these ferrets died on the eleventh day and one died on the twelfth. The remaining 2 ferrets were given the inoculation of canine distemper virus on the forty-eighth day after the injection of the encephalitis virus, and both succumbed to the disease 11 days after the inoculation.

It is concluded that epizootic fox encephalitis and canine distemper may be distinguished by a test of the susceptibility of ferrets. This animal is not susceptible to fox encephalitis but, as a rule, succumbs when inoculated with the canine distemper virus of Laidlaw and Dunkin. The injection of fox encephalitis virus into ferrets gives no immunity against subsequent injection of the canine distemper virus.

4642

The Irritability and Chronaxie of the Small Bowel.

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In view of Lapicque's claim that the chronaxie is one of the best measures of the excitability of a muscle we were curious to see what this "threshold of duration" is for the mammalian small intestine, and if it is graded from duodenum to ileum. Unfortunately, in the time that I could give to the problem no conclusion could be reached except that with both galvanic and faradic tetanic stimuli the time required in order to get a response varied between 0.1 and 0.6 second. In 3 animals the chronaxie appeared to be graded downward with short intervals in the duodenum and long ones in the ileum, and in one there was no gradation. The problem will have to be studied further probably with a different type of apparatus. I used the electrodes and technic described by Alvarez and Hosoi.¹ The duration of current flow was determined by 2 keys which were opened either by a Lucas pendulum² or by a gravity operated arm, the descent of which was regulated by a dash-pot. The Lucas pendulum with the keys separated as widely as possible delimited an interval which usually was too short for effective stimulation.

¹ Alvarez, W. C., and Hosoi, Kiyoshi, *Am. J. Physiol.*, 1929, lxxxix, 182.

² Lucas, Keith, *J. Physiol.*, 1907, xxxv, 310.

With such a long chronaxie as was found it is curious that the neuromuscular wall of the bowel should respond at all to the rapidly interrupted faradic current.

During the course of these experiments it was necessary to measure the threshold for faradic stimulation and the opportunity arose of checking the recently published observations of Alvarez and Hosoi. Fig. 1 shows that a gradient of irritability similar to

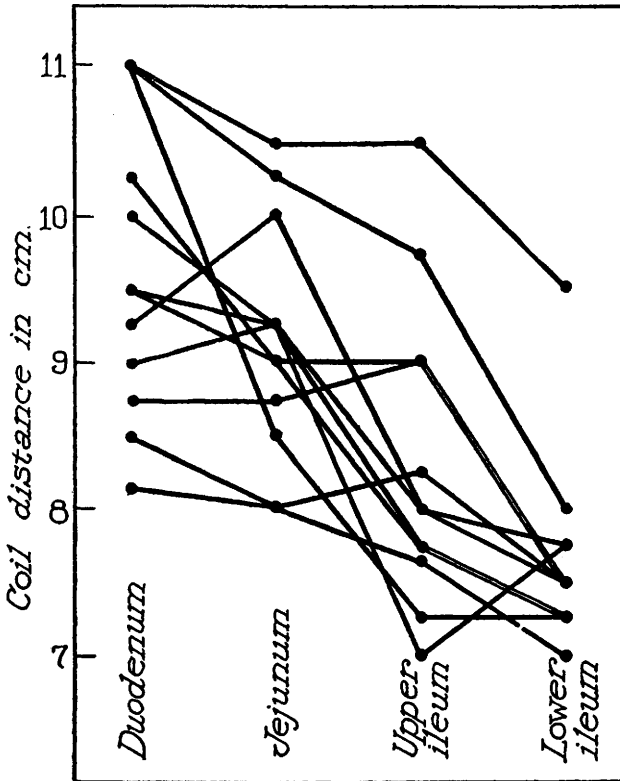


FIG. 1.

Gradient in irritability in the bowel of the rabbit. Ordinates represent coil distance in centimeters and abscissas represent four different regions in the bowel. Lines connect readings on one animal.

the one described by them was found in 12 out of 17 rabbits. In 2 the irritability was low and about the same in all parts of the bowel, and in 3 the gradation was irregular. In spite of the fact that I used their apparatus and their technic the thresholds obtained by me tended to be higher than those obtained by them and several were higher than any they obtained. On the whole their results are confirmed and the possibility remains that the animals with a flattened or irregular gradient of irritability were diseased and abnormal.