virus, development of malaria parasites was retarded and many of them appeared abnormal.

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Effect of Gastric Emptying Upon Propulsive Motility of Small Intestine of Rats. (25024)

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The influence of antral peristaltic activity upon motility of small intestine has been considered by Alvarez(1) and others before him. Existence of a feeding response alerting the entire intestine has been observed repeatedly in dogs with exteriorized loops(2), but this does not necessarily involve gastric motility for it has been observed in the sham fed(3). Obviously gastric motility is necessary for introduction of material before the intestine can propel it. However, we wished to determine whether the continued propulsion of the material is influenced by the activity of the stomach in emptying.

Material and methods. We further modified Macht's technic so that amount of intubated mixture in both stomach and intestine might be quantitated at end of experimental period. The mixture consisted of 1 g methylcellulose, 200 mg trypan blue, 20 g powdered tetrafluorethylene resin (Teflon) and 200 ml H_2O. The trypan blue was used as a marker, while Teflon was chosen because it is practically indestructible. Up to 3 ml of this mixture was given by gastric intubation in 38 unanesthetized male adult albino (Wistar) rats weighing 210 to 410 g and fasted overnight. After killing the rats at end of 20 min and determining the distance traversed by the blue mixture, the stomach and small intestine were digested separately in nitrosyl sulfuric acid upon a steam bath. The Teflon remaining was collected upon sintered gooch crucibles, and after washing with chloroform to remove traces of fat, was dried to constant weight. In 12 similar rats killed immediately after intubation, it was found that 10% of the Teflon had left the stomach at the moment of intubation and traversed 6% of the small intestine.

Results. From the amount of Teflon recovered from the intestine and total amount intubated (Teflon recovered from stomach plus that from intestine) the per cent gastric emptying was calculated. When this value for each rat was plotted against per cent of small intestine traversed the scatter diagram of Fig. 1 resulted. (For conservation of space, 6 extreme points to the left and above have been omitted from the Figure but not from the calculations.) Also plotted on the

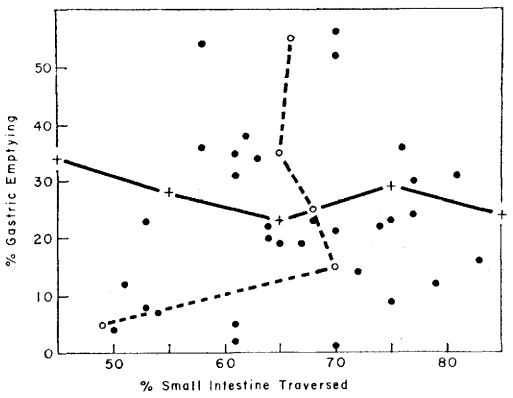

FIG. 1. Simultaneous gastric emptying and proportion of intestine traversed; each filled circle represents a rat. Also shown: empirical regression lines, % emptying on % traversed (solid); % traversed on % emptying (dashed).

diagram are the empirical regression lines. The correlation coefficient is 0.003.

Conclusion. The extremely low correlation found in these experiments suggests that the propulsive motility of small intestine is essentially independent of that of the stomach.

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Precise Zone of Localization of Anti-Kidney Antibody in Various Organs.* (25025)

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Antibodies prepared against rat kidney, when injected intravenously into rats, are fixed by kidney and several other normal tissues, as shown by radiolabelled antibody technics(1,2). The precise structures on which localization takes place have been visualized by immunohistochemical means in kidney and adrenal(3,4) but not in other organs. Presence of antigens in various tissues, indistinguishable from kidney antigens has been shown. Radiolabelled antibody technics show that antisera against various tissues contained kidney localizing antibodies(1,2); these tissues are capable of absorbing out the localizing activity(5). Baxter and Goodman have shown that antisera to various tissues can produce glomerular lesions and that these tissues can neutralize kidney localizing antibodies(6,7). Cruickshank and Hill(8) demonstrated by immunohistochemical methods the presence of identical antigens in these tissues which react *in vitro* with antibodies formed against rat kidney when cells are sectioned and the antibody brought in contact with cell contents. The fact that cross reacting antigens are found in various organs does not mean that circulating antibodies have access to them. The present work was done to determine just which structures the *in vivo* administered antibody do give a high enough local concentration to be seen by immunohistochemical procedures.

Materials and methods. Rabbit anti-rat kidney serum was that used previously(9). A total of 4 female and 4 male rats weighing 150-200 g were injected intravenously in the tail with 2 ml of rabbit anti-rat kidney serum or normal rabbit serum (heat inactivated for 30 min at 56°C). All animals were sacrificed and perfused 18 hr after intravenous injection of antibody. Uninjected control rats were also used. Fluorescein and tetramethylrhodamine labelled horse anti-rabbit globulin were prepared as previously described(10) by procedures similar to those described by Coons and Kaplan(11). The preparations were absorbed 3 times with rat liver sediment to remove components which stained rat tissues nonspecifically(12). Immunohistochemical staining was performed as follows: Tissues were excised, frozen with solid CO_2 and stored at −20°C. Frozen sections 5 μ thick were cut and thawed on gelatinized slides; dried under a lamp and used on day of preparation. Sections were immersed in saline and the area around the tissue dried. A few drops of fluorescein or tetramethylrhodamine labelled horse anti-rabbit globulin were placed on the tissue and incubated at room temperature 1 hour. The sections were washed 10 min in buffered saline (pH 7) and mounted in glycerol containing 10% buffer. Fluorescence was observed through Reichert fluorescence microscopy equipment. When sections of uninjected rats were stained *in vitro* with rabbit anti-rat kidney antibody prior to treatment with labelled horse anti-rabbit serum, the rabbit antiserum was absorbed with human

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