The action of resorcinol solution upon ascaris eggs is very different from that of hexylresorcinol. Resorcinol solutions of 0.1% and 1% permit normal development of the eggs, while those in a 5% solution did not develop past the one cell stage. This lack of action may be due to the great solubility of resorcinol in water. The difference in action on ascaris eggs of resorcinol and hexylresorcinol is in accord with the work of Leonard[5] who showed that the bactericidal action of resorcinol is increased by the addition of an alkyl chain and reaches its maximum activity with a 6 carbon straight chain group (n-hexylresorcinol).

Effect of hexylresorcinol upon hookworm eggs and larvae (Ancylostoma caninum).

Hookworm eggs are killed within 24 hours by a 0.05% solution of hexylresorcinol. Hookworm eggs contained in fluid feces to which was added 25 cc. of 0.05% hexylresorcinol, or 25 cc. S.T.-37 solution, all failed to develop and after 8 days were distinctly degenerated with their cytoplasm in a single dark mass. Controls to which 25 cc. of tap water had been added showed eggs in all stages of development as well as active rhabditiform and filariform larvae.

Some of the early filariform hookworm larvae placed in .05% hexylresorcinol and in S.T.-37 lost their activity within 5 minutes and were all dead in 10 minutes. Larvae in a 30% glycerine solution were likewise killed (possibly an osmotic effect) so it is not likely that the hexylresorcinol of the S.T.-37 was the only factor in their death.†

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Interrelation Between Secretion and Incretion.

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All attempts of different investigators to find out the interrelation between the external and internal secretion of the pancreatic gland have not been successful because the methods used, evaluation of

[5] Leonard, V., *J. Am. Med. Assn.*, 1924, **83**, 2005.

† The hexylresorcinol for these experiments was kindly given us by Dr. Veader Leonard.

blood sugar in the peripheral blood,[1, 2, 3] or acute pancreatico jugular transfusion experiments on anesthetized dogs[4] lack the conclusiveness of direct physiological research under natural conditions.

We used angiostomized dogs with pancreaticoduodenal and adrenolumbal canulas. We know the secretion curves of pancreatic juice of the dog after feeding with proteins, carbohydrates and fats.[5] We built up curves of insulin and adrenalin incretion during digestion of the same species of food.

Comparison of the curves of external and internal pancreatic secretion shows no parallelism.

After feeding with cream, which is usually followed by abundant secretion of pancreatic juice, no insulin incretion at all could be detected. After feeding with meat, after which, during the first hours, a rapid rise of external pancreatic secretion is always observed, not until the fifth hour of digestion did some internal secretion begin, lasting a short while. It is only after feeding with bread that one could find some relation between secretion and incretion of the pancreas both being represented with high curves, though there is no real similarity between them.

High curves of insulin incretion are in this case the result of abundant secretion of pancreatic juice, only because of consecutive abundant sugar formation and absorption, increasing the blood sugar level, and through it the internal pancreatic secretion. It is not a case where excretion and incretion are the result of the same stimulating agent; incretion follows another stimulating agent which is the result of the action of the external factor on the carbohydrates of the food.

Further, on comparing the curves of insulin and adrenalin incretion after different kinds of food, we see on the whole that there is mostly an antagonistic relation between them. For instance, we have a concave curve of pancreatic incretion and a convex curve of that of the suprarenal gland.

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[1] Gley and Hazard, *C. R. Soc. Biol.*, 1928, **69**, 16, 195.

[2] Jorns, *Klin. Wochenschr.*, 1929, **8**, 2319.

[3] Boldyreff, *Bull. Battle Creek San. and Hosp.*, 1929, **24**, 349.

[4] Zunz and La Barre, *Arch. Int. Physiol.*, 1930, **39**, 142; 1929, **31**.

[5] Babkin, B. P., *Die äussere Sekretion der Verdauungs drüsen.*