In the adult human pancreas, the argentaffin cells are very numerous in the islands of Langerhans; few are found in the acini. In the regions where an acinoinsular transformation seems to take place, the intermediate elements are silver stained.

The distinction of clear and silver stained cells in the islets corresponds, probably, to the existence of alpha and beta cells, as shown by other techniques; the argentaffin properties will give an opportunity to study the cytological responses of the insular cells to various physiological stimuli.

The existence of the cells of Lasowsky in the acini is very difficult to ascertain without use of the silver reaction. The rôle of these acinian silver stained cells is unknown; in the light of our actual data we consider them as potential insular cells, which remain located in the acini, and which, under certain conditions, might be the source of fresh insular material.

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Successful Artificial Immunization of Dogs Against Taenia Echinococcus.

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(Introduced by W. S. Ladd.)

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The recent success of Miller[1] in immunizing rats against infestation with *Cysticercus fasciolaris* led us to consider the possibility of interrupting the life cycle of *Taenia echinococcus* by means of artificial immunization. The definitive host, the dog, was chosen as the experimental animal.

Two kinds of antigen were used in our attempts to immunize: (1) Scolices and the germinative membrane of *Echinococcus granulosus* were obtained from fresh fertile hydatid cysts of cattle. This material was dried in the incubator at 37°C., powdered and stored in bottles. Before use a 1% phenolized (0.5%) suspension was prepared. (2) Scolices, germinative membrane, and cuticular membrane from fertile and non-fertile hydatid cysts were obtained and prepared as was No. 1. There was no discrimination as to the kind or breed of dogs used. Young dogs weighing from 2.5 to 5.5 kg.

[1] Miller, H. M., Jr., *J. Prev. Med.*, 1931, **5**, 429.

were isolated and their stools examined for at least 5 consecutive days for the ova of taeniae. Ten dogs with a clean record were used as a preliminary series.

Eight dogs were immunized by 5 consecutive injections at 3-5 day intervals. The first dose was 0.5 cc. of the antigen suspension given subcutaneously; the subsequent doses were 1 cc. given intramuscularly. From 6 to 15 days after the last injection both the experimental and the control dogs were fed fresh fertile hydatid cysts. Except for 2 dogs which died of pneumonia before the last feeding, all dogs were fed at least 3 times before autopsy.

From 24 to 47 days after the first feeding and 10 days after the last feeding all dogs were sacrificed and autopsied. The intestines were thoroughly examined macroscopically and microscopically for evidence of *Taenia echinococcus* infestation.

Results. Macroscopic and microscopic examination of the intestines of the 2 control dogs showed that they were literally lined from the pylorus to the caecum with *T. echinococcus;* a count showed 1,384 taeniae per square centimeter.

Macroscopic examination of all the injected animals was negative; the intestines appeared perfectly normal.

Microscopic examination of the intestines of the injected dogs showed: 1 dog, entirely negative; in 1 dog a single *T. echinococcus* was found; 3 *T. echinococcus* were found in 2 dogs; 5 *T. echinococcus* were found in 1 dog; and 6 *T. echinococcus* were found in one other dog. The 2 animals which died 7 and 17 days respectively after the first feeding were entirely negative.

Conclusions. (1) It is possible to induce a marked degree of resistance to *Taenia echinococcus* infestation in dogs. (2) There was no appreciable difference between the efficacy of the 2 antigens used.