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Argentaffin Cells of the Pancreas.

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In the pancreas of the dog, Lasowsky[1] has described the existence of argentaffin cells in the acini and in the islands of Langerhans. These cells do not reduce the silver solutions in the same way as the true argentaffin cells of the digestive tract; they remain unstained when placed in the ammoniacal silver solution but show up clearly after block silver treatment.

During an investigation of the histogenesis of the pancreas, we have been able to verify the descriptions of Lasowsky and to extend the facts to the human pancreas and to the pancreas of the calf, the pig and the chick; the Roger's silver impregnation, in addition to its nerve demonstration usefulness, brings the argentaffin cells into clear evidence.

The pancreas of a 12 mm. pig embryo shows numerous silver-stained cells; they represent the first histological differentiation in the solid epithelial cords, which later become the primary pancreatic ducts from which the islands and the acini will differentiate. The argentaffin cells can be found at all stages of development of pig and calf embryos and exist in the acini, the islets and the walls of the pancreatic ducts.

In the acini, the argentaffin cells are found between the secretory cells; they usually are pyramidal in shape, with their base extending along the basal part of the neighboring cells. The basal part of the cytoplasm is filled with granules, while these seem to be less closely grouped in the apical pole. Sometimes these cells have a multipolar aspect and send out granular processes which can be followed for a considerable distance (20 micra).

In the islands, the argentaffin cells show a smaller number of granulations which are scattered in the cytoplasm; the silver staining property appears to be uneven and one might consider the existence of intermediate stages between the clear and the argentaffin cells.

In the 10-day chick embryo, silver stained cells are exclusively found in the juxtahepatic region, where the first differentiation of the insular tissue takes place. In that area, they are numerous and show the same characters as the argentaffin cells in pig and calf embryos.

[1] Lasowsky, J. M., *Frankf. Z. f. Pathol.*, 1931, 140.

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.