Clinical Notes**ANKYLOSTOMA DUODENALE**

(UNCINARIA AMERICANA) *

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Some years ago (1904) the Smithsonian Institution published the collected "Researches in Helminthology and Parasitology," written by the late Prof. Joseph Leidy.¹ The publication consisted of the collected essays and original investigations² from 1844 to 1891. Unusual care was observed that the work should be complete in all details, but, as frequently occurs, owing to the vast amount of scientific literature which now burdens the transactions of our various learned societies, the title of one paper was not catalogued, and the communication was lost to the specialist interested in similar lines of investigation. The brief observations were presented under the title, "Remarks on Parasites and Scorpions, May 5, 1886."

Leidy described three specimens of worms obtained from an anemic cat, presumed to be specimens of *Ankylostoma duodenale*, which were sent to him by Dr. Belfield, of Chicago, for determination. He remarked:

On superficial examination I supposed the worms might belong to *Strongylus tubaeformis*, a closely related parasite infesting the cat. The specimens, however, exhibit the same structure of the mouth as is described in the *Ankylostoma duodenale* of man, . . . [description follows].

The finding of this parasite in the cat in this country renders it probable that it may also infest man with us, and is probably one of the previously unrecognized causes of pernicious anemia.

The occurrence of the same parasite in the cat is also of interest, as heretofore it has only been noticed in man.

In reply to the question of Dr. Weir Mitchell as to how the animal gained entrance to the system, Leidy stated:

It is supposed that ankylostoma gain entrance to man through the drinking-water; and if that is the case the cats probably obtain it in the same way. If cats in this country obtain it from the drinking-water it is probable that with us man may do so.

It is curious that it should be found in the cat; generally we find that similar parasitic worms are found only in animals closely related to one another.

So far as we know, the *Ascaris vermicularis* occurs in no other animal than races of men. The cat has its own ascaris and this is found in various species of cats all over the world. There is another found in the dog, which is also found in the wolf. Again, the ordinary tapeworm of the dog is found in all sorts of dogs. I have a specimen from the wolf in the west, and I have another which Dr. Kane obtained from an Esquimaux dog in the north; as I have said, worms of the same species in the same stage usually only infest animals which are closely related.

The original communication was made to the College of Physicians of Philadelphia and was followed by further observations on *Trichina spiralis* and scorpions from Mexico. The date, May 5, 1886, is of historic interest.

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* Read before the Pathological Society of Philadelphia, May 13, 1909.

1. Researches in Helminthology and Parasitology, by Joseph Leidy, M.D., LL.D., with a bibliography of his contributions to science arranged and edited by Joseph Leidy, Jr., M.D., Smithsonian Miscellaneous Collections, Vol. xlv (1904).

2. Originally published in Proceedings of the Philadelphia Academy of Natural Sciences and elsewhere.

QUININ INHALATIONS IN PERTUSSISWITH A CONSIDERATION OF OTHER PETRÒX
MEDICAMENTS *

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The physician has possibly no more irritating sense of helplessness than when called to treat a patient with whooping cough. Besought from day to day by a distressed mother for a greater measure of relief, he tries one and another drug, only to realize the inadequacy of them all.

A perusal of the literature demonstrates that quinin, despite all the newer drugs, holds its own. More than a year ago, in looking over some literature on the subject, the proposition to bring quinin for its germicidal effect into immediate contact with the respiratory mucous membrane, attracted my attention.

Michael, forty years ago, recommended the insufflation of quinin and benzoin powder into the nostrils. Litznerich mentions in Ziemssen's Encyclopedia that he tried an inhalation of a solution of sulphate of quinin in one case, but that the child was removed from the hospital too soon for any conclusions to be drawn.

At the present time quinin is usually given internally; when given locally it is in the form of a powder combined with minor drugs, and insufflated into the nostrils. The insufflated powder can reach only the prelaryngeal areas. To me, believing as I do that the infecting germ has its habitat throughout the respiratory mucous membrane, the idea of bringing the drug in contact with the whole tract seemed promising. The frequent use of an acid solution of quinin sulphate, by inhalation as suggested by Litznerich, would be sufficiently contraindicated because of its injurious effect on the teeth. To accomplish this purpose, I experimented with the liquid petrox of the National Formulary. Finding that the ammonia of this preparation caused some irritation of the nasal mucous membrane, I substituted therefor potassium. Using a corresponding portion of potassium hydrate makes a thick solution, requiring warming to liquefy. After considerable experimenting, a solution in which the potassium was considerably lessened in amount was found the most satisfactory.

The following is the stock formula¹ as given me by Mr. W. G. Nebig:

R.	gm. or c.c.	
Potassium hydrate	29.6	fl.38
Alcohol, q. s. ad.	200	fl.5iss
Of this add:	5	fl.3iss
To		
Oleic acid	10	fl.33
Liquid petrolatum	25	fl.3iss

One ounce of this preparation will readily dissolve 30 grains of the alkaloid quinin. I have directed this to be used in a nebulizer not less than three times daily, preferably oftener. With very young children a mask or canopy over the head may be necessary. Older children will readily take, even ask for it, nebulized directly into the nostrils. In my experience, I have had no trouble in gaining the confidence of the child and being able to give it a concentrated inhalation of the drug.

* Read before the Northwest Medical Society, May 3, 1909.

1. Some preparations are made by dissolving the drug in the alcoholic solution of potash, some, as quinin, in the finished solution. No more alcohol than the amount stated should be used.