Clinical Notes

TWO CASES OF INFECTION WITH *TÆNIA NANA* IN THE PHILIPPINE ISLANDS.

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During my tour of duty in the Philippines, two cases of infection with *Tænia nana* (*Hymenolepis nana*) came under my care, and a brief outline of the symptomatology in these cases and a description of the ova of the parasite may be of interest, especially in demonstrating the fact that infection with this tapeworm is not infrequent in the Island of Luzon and that the damage to the host may be severe.

NARRATION OF CASE.

The first case under observation was a private of E troop, 8th U. S. Cavalry. After the recent epidemic of Asiatic cholera in and around Manila, one squadron of the 8th cavalry was stationed along the Mariquina river, from which stream is derived the water supply of Manila, to guard the river from pollution. E troop took station at Mariquina, a town five miles from San Mateo.

CASE 1.—The patient had marched with his troop from Fort William McKinley to Mariquina and soon after arrival was taken sick. Forty-eight hours later I saw the man. As several deaths from Asiatic cholera had occurred at Fort McKinley just before this troop left, it was feared that this man might have the disease.

Figs. 1, 2, and 3.—Ovum with inner membrane surrounding embryo. Hooklet with rounded extremity for musculature. Diagram showing arrangements of hooklets in three planes.

Symptoms.—When I reached Mariquina the man had nausea and vomiting, with frequent loose and watery stools; intestinal cramps, not very severe, and no cramps in the muscles of the limbs. He was very weak, but there was no collapse and the pulse was fairly strong and regular. Temperature: Mouth, 99 F.; rectum, 100.

Treatment.—The patient was transferred to the hospital at San Mateo by ambulance, and after taking a little cracked ice and brandy the nausea and vomiting were relieved.

Stools.—The first stool was examined. It was watery with a few flakes of brownish material scattered through it; not at all like the rice-water stools of cholera. Under the microscope there were seen epithelial cells in various stages of degeneration, fatty acid crystals, and bile-stained debris. The usual products of severe intestinal inflammation were not present. Hundreds of ova (Fig. 1) were seen. Each stool was saved (male fern had been administered on the second day after admission) and search made for the worms, but none could be found, and, after the first morning of the patient's admission to hospital, no ova were found. The intestinal antiseptics and purge administered before I saw the man, it is supposed, caused the expulsion of the worms; the stools were not carefully examined until the patient entered the hospital. He gained rapidly in strength and weight and was soon returned to duty.

CASE 2.—The second case was under treatment one month later. The man is a member of the hospital corps.

History.—He gave a history of chronic diarrhea in 1898, contracted while in Puerto Rico. He was operated on in 1904 for appendicitis. For several months he has been troubled with constipation, loss of appetite, coated tongue, and distended and slightly painful abdomen. He is nervous and does not sleep well, and has abdominal distress after eating.

Examination of Stools.—The stools were formed, dark-yellow in color, with flakes of mucus scattered through them. Under the microscope, ova in every respect similar to those noted before, were found; and, also, many *Cercomonas intestinalis*. The man was put to bed and given a preliminary purge and two 3 c.c. doses of male fern. After several hours the stools were examined and about forty unbroken *Tænia nana* were obtained. Several of the worms were brought out by the purge.

THE OVA.

The ova are transparent and not bile stained, oval, almost round, in shape; about 30 microns in the short diameter and 35 microns in the long. The shell is very thick, not rigid, and not radially striated, and contains here and there coarse granules. Immediately surrounding the embryo is a delicate membrane (Fig. 1). The protoplasm of the embryo contains many granules of various sizes. Six hooklets are attached to each embryo (Fig. 2); these are arranged in pairs and their points almost touch the inner membrane. The curved points

Fig. 4.—Diagram showing how points of hooklet are thrust into the shell and then swept around through it.

of the ends of the hooklets are directed from the center of the group, in three directions. The arrangement of the groups of hooklets, and the fact that in several of the ova the hooklets had perforated the membrane and were projecting into the shell almost to its outer surface (Fig. 4), and that in others the points of the hooklets were widely separated from each other and some distance from the membrane, suggested to me that perhaps the function of these hooklets was to free the embryo from the shell. Diligent search was made to see if any motion of the embryo could be observed. At length one embryo was found in active motion within the shell. The points of the hooklets were first drawn together and the whole armament thrust against the adjacent part of the surrounding membrane and into the shell; then the hooklets made a circular sweep around a point near their blunt extremities as a center, in three planes at angles of 120° to each other (Fig. 3). This thrust and sweep was repeated at the rate of about once in ten seconds. The motion continued for about one hour, at the end of which time the envelope had been cut through about three-fourths of its thickness. Motion then grew slower and soon ceased altogether. During the motion of the hooklets, motion of the protoplasm of the embryo could be traced by the granules contained

therein. No embryos free of their shells could be found. This movement was observed in the embryos passed *per anum* by both patients, also in those expressed by cover glass from the fresh worm obtained from the second case.

The parasite is found in several of the lower animals, especially rats, in which animal, it is stated, an intermediary host is not required.

ROCKY MOUNTAIN SPOTTED FEVER.

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I read with interest two articles on Rocky Mountain spotted or "tick" fever in *THE JOURNAL*, July 7, 1906. This fever exists in Nevada, but cases do not seem to be

so numerous or so fatal as those occurring in Idaho, Utah and Montana. Here they occur almost, if not exclusively, among sheep-herders, so I am somewhat surprised that Dr. H. N. Mayo does not even mention this class, though they are plentiful in the states named.

About three years ago my first patient with "tick" fever came to me. I did not recognize the condition as such, hence can not say whether the patient, a sheepman, had been bitten by a tick. The infection was severe and I feared that I would lose the patient. He got up at the end of eight weeks, and recovered slowly thereafter, and in time became entirely well. The treatment in this case was symptomatic, as outlined by Dr. Mayo.

Within the past two months I have had six cases, five Frenchmen and one Spaniard, all sheep-herders. They came from three different camps (one of which seems to have acquired a reputation for having such cases yearly), two from each camp. Without exception all the men gave a history of one or more very recent tick bites. All the patients were severely in-

fectured, two especially so. None of the cases terminated fatally: all were typical cases. The Spaniard's case was the most severe, perhaps because he came to me later than the others, having tried to "fight off" the trouble. He came in an extremely emaciated condition, resembling the pictures of Cuban reconcentrados published in the papers during the Spanish war, and in marked contrast to the puffed features of the others. A very distressing phase of his illness was a cough resembling that of an advanced case of phthisis. Examination of lungs was negative and the results justified the belief that no serious lesions were present, as the cough disappeared with the eruption.

Unfortunately no special blood or other tests were made, owing to lack of facilities.

In great contrast to the first case mentioned all of these patients were practically well within three weeks—out of bed, etc.—final recovery being very rapid thereafter. With but slight exceptions, calling for some special drug, all the patients were given practically the same treatment. An initial dose of calomel and jalap, followed next day by quinin, 30 grains twice daily for one week (a little longer for the Spaniard), then in gradually diminishing doses until the temperature remained normal for two days.

Strychnin sulphate was given when necessary. A seidlitz powder or two was given every morning. Sponge baths were also given. No quinin was given in my first case. Other cases with which I am familiar, and in which quinin was omitted or given in small doses only, lasted, as did my first case, about two months. In those in which large doses were used the majority of patients recovered in from ten days to two weeks. The accompanying illustration of the patient in my last case (not a very good photograph) shows the typical eruption.

CONGENITAL MEMBRANE IN THE NASOPHARYNX.

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Patient.—Mrs. M. E., aged 35, was referred to me for examination and treatment of nose and throat.

History.—For a number of years she had had trouble with the right ear in the nature of a purulent otitis media. With the removal of the ossicles she experienced great relief from certain subjective symptoms while the discharge was reduced to a minimum. She complained of dryness of the nasopharynx which had existed for a long time and of disagreeable sticking and gagging sensations which combined to make life miserable. From her efforts to remove the secretion, nausea and vomiting ensued. There was constant tinnitus in the left ear.

Examination.—The nose showed nothing abnormal with the exception of a dryness of the mucous membrane. The pharynx was dry and parched and covered with a layer of thick grayish secretion which apparently came from the nasopharynx. The examination of the latter revealed a curious condition of affairs. After cleansing the posterior pharyngeal wall the mirror could be used with ease. Coming down from the roof of the nasopharynx and extending entirely across the cavity was a distinct membrane which divided the space into anterior and posterior parts. The membrane had its origin behind the openings of the Eustachian tubes, neither of which was visible. About the center of the membrane was a round perforation extending a little further to the left than to the right. Through the hole could be seen the lower two-thirds of the septum, the inferior and the middle turbinates on the left and a little to the outer side of the septum on the right. Above and to the right, midway between the opening and the lateral wall, and at the point where the membrane came off from the roof, was a second elongated opening much smaller than the first. The margins of both openings were perfectly smooth and clear cut. The membrane passed downward and became gradually lost on the posterior wall of the soft palate.

No tuberculosis or specific history could be obtained. From the large extent of membrane and from the clear cut margins