

Intestinal Cestode Infections in Natives of Panamá¹

By HAROLD A. TUCKER

From the Medical Service, Gorgas Hospital, Ancon, Canal Zone

THE present enforced occupation by the Armed Forces of widely scattered geographic areas makes the distribution of human helminthic infections of greater significance than ever. The pathogenic nematodes of the gastrointestinal tract are well-known as the primary metazoan parasitic challenge on the Isthmus of Panamá. However, to the writer's knowledge, only a single report has appeared dealing with the intestinal tapeworms in this region. Caldwell² found 6 of 2,021 school children parasitized by some species of *Taenia*, an incidence of only 0.29 percent. It was therefore thought worthwhile to review briefly the cases of intestinal cestode infections compiled in the clinical records of Gorgas Hospital (formerly Ancon Hospital), Ancon, Canal Zone.

Among the 558,556 hospital charts of admissions and readmissions from May 1904 to November 1944, 126 diagnoses of intestinal tapeworm infections were recorded—an incidence of 0.023 percent. *Taenia saginata* was the most frequent parasite and was present in 99 patients. *Hymenolepis nana* was found in 16, *Taenia solium* in 8, and *Diphyllobothrium latum* in but a single instance. In 2, the species of *Taenia* was not mentioned.

Of the 126 cases with tapeworm infections, only 15 patients

Autochthonous Intestinal Cestode Infections from Panamá

Date	Age	Sex	Occupation	Probable Area of Infection	Parasite Identified
1914	10	F	Schoolgirl	David, R. P.	<i>Taenia solium</i>
1921	32	F	Housewife	Panamá City, R. P.	<i>Taenia saginata</i>
1922	21	M	Laborer	Arraiján, R. P.	<i>Taenia saginata</i>
1923	30	F	Housewife	Chitre, R. P.	<i>Taenia saginata</i>
1923	41	M	Laborer	Paraiso, C. Z.	<i>Taenia saginata</i>
1924	13	F	Schoolgirl	Panamá City, R. P.	<i>Taenia saginata</i>
1926	28	M	Laborer	David, R. P.	<i>Taenia saginata</i>
1929	25	F	Housewife	Panamá City, R. P.	<i>Taenia saginata</i>
1931	7	F	Schoolgirl	Panamá City, R. P.	<i>Taenia saginata</i>
1933	11	F	Schoolgirl	Paraiso, C. Z.	<i>Taenia saginata</i>
1934	14	M	Schoolboy	Panamá City, R. P.	<i>Taenia saginata</i>
1939	23	F	Housewife	Panamá City, R. P.	<i>Taenia saginata</i>
1940	21	M	Laborer	Panamá City, R. P.	<i>Taenia saginata</i>
1942	26	F	Maid	Panamá City, R. P.	<i>Taenia saginata</i>
1943	33	F	Housewife	Balboa, C. Z.	<i>Hymenolepis nana</i>

1. Received for publication August 15, 1945.

2. F. C. Caldwell, The parasitic index of the school children of Panamá City. Proc. Canal Zone Med. Assoc., 14:15-19, 1921.

represented unquestionably autochthonous infections. All were Panamanian *mestizos*, who had never been outside the Canal Zone or the Republic of Panamá. The preceding table gives a somewhat detailed picture of the group.

There are several reasons for believing that the incidence of intestinal cestode infections in the general native population, including all age groups, approaches the figure given in this paper. Comparatively few cattle and pigs are raised here; imported meats are inspected by the United States Government, and the actual consumption of meat by the group under consideration is low. An additional factor is the local custom of cooking all meats thoroughly.

The fact that the native population characteristically maintains a staggering nematode burden and is essentially free from cestode infections is suggestive that the lack of appropriate intermediate hosts plays a dominant role. Trichinosis serves as a valid corollary; no diagnosis of that disease has ever been proved in a native at Gorgas Hospital, and microscopic sections of striated muscle tissue in several thousand autopsies on natives have never been found to contain larvae.

No explanation is forthcoming for the low incidence of *Hymenolepis nana* in this region.

It is to be emphasized that the hospital population is a representative sample of the general population, both rural and urban, and that stool examinations for ova and parasites are done routinely at this institution. These facts make it quite unlikely that a significantly higher incidence would remain undiscovered.

SUMMARY

1. In a review of 558,566 admissions to Gorgas Hospital, Ancon, Canal Zone, from May 1904 to November 1944, 126 instances of intestinal cestode infections were found. Only 15 of these were unquestionably autochthonous in origin.

2. The paucity of suitable intermediate hosts, together with inspection and thorough cooking of meats, were considered the most important factors in explaining this low incidence.

3. All parasites found were generally accepted as being cosmopolitan in distribution; only 3 species could be definitely considered of local origin—*Taenia saginata*, *Taenia solium*, and *Hymenolepis nana*.