

# Porto Rico Health Review

*Official Bulletin of the Department of Health*

Published monthly by the Department of Health of Porto Rico.

VOL. I

DECEMBER, 1925

No. 6

## PRELIMINARY REPORT OF A CASE PARASITED BY BOTHRIOCEPHALUS LATUS

By ANTONIO MARTÍNEZ ALVAREZ, M. D.

Commerce and immigration are making cosmopolitan all those diseases in which climate is not an indispensable factor, outside the endemic focus from which they originate. Porto Rico cannot escape from this, we may say, universal condition and is as other countries increasing its pathologic index with certain exotic diseases directly related to commerce and immigration.

With the exception of the great immigration of negro slaves and those which followed the wars of San Domingo and Venezuela with the Spanish Government, no other important immigrations to this country took place until the time of the American occupation. From that time on the commercial interchange has increased considerably in the Island and consequently the number of immigrants arriving from the States has grown year after year in such a way that to-day alongside of a Swiss, a Finlander or a Norwegian may be found a Syrian or a Philippine. All these are hard working people who while carrying on their commercial transactions in the country fully conscious of what they are doing in business, are at the same time unconsciously discharging their pathologic burden in our midst and taking away with them a good dose of our uncinariasis, bilharziosis and sprue anemia. After all, this is only a just and courteous exchange of subconscious relations.

The origin of the case under consideration,—a case infested with *Bothriocephalus Latus*—suggests one of the three following sources:

1. That this cestode is endemic in Porto Rico.
2. That the parasite may have been imported by foreigners arriving in Porto Rico from the north of Europe, either from the regions of the Danube or from some other territory where the parasite is ordinary, these foreigners having infested through their excreta

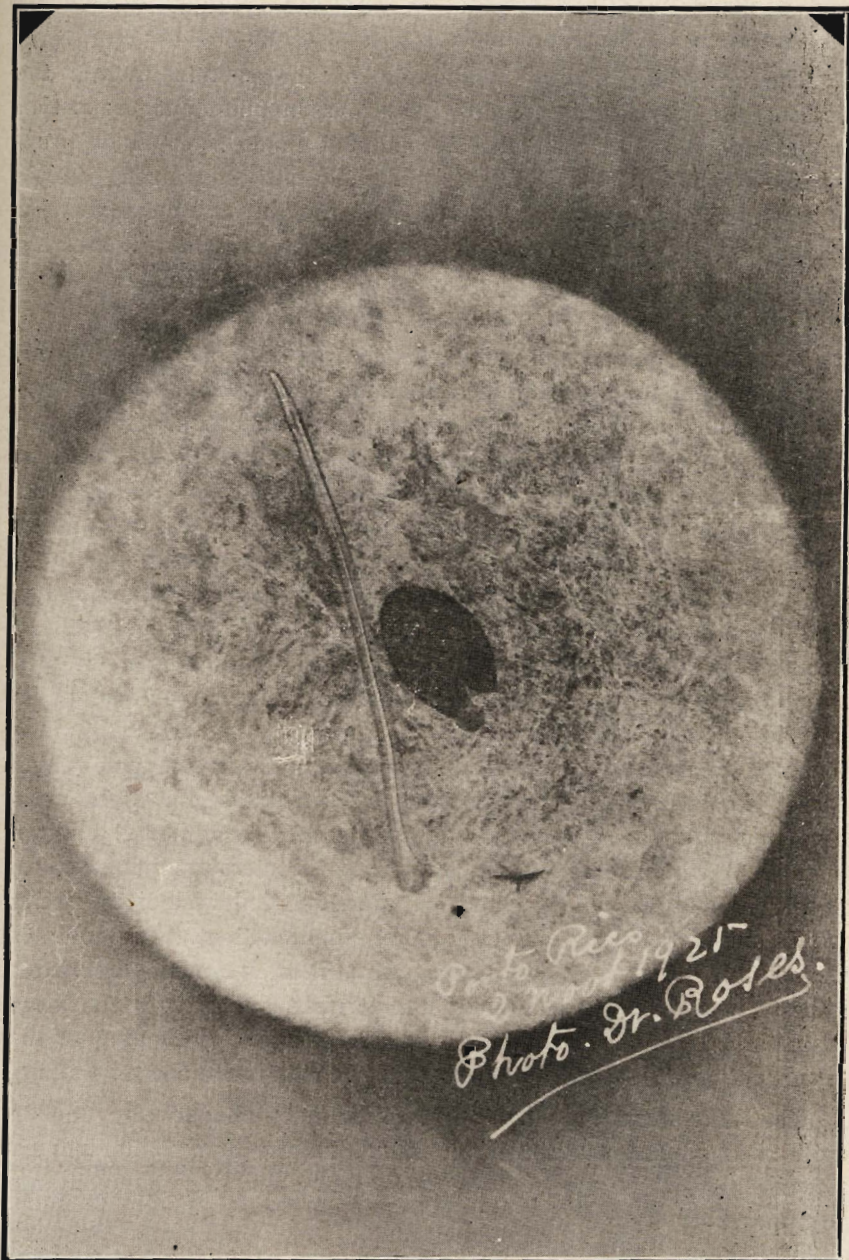
certain kinds of fish of the western coast of the Island from which the case in question comes and as a result the first victim appears now, probably due to having eaten infested fish which was not properly cooked or prepared.

3. That the patient may have been infested from eating canned fish from the Great Lakes of North America where the presence of the plerocercoid in the muscles of some fish has been discovered or from the above-mentioned European regions, and that the infestation was brought about by failure to cook and prepare the fish properly. It should be borne in mind that smoked or dried fish even when salted, and also frozen fish may contain viable plerocercoids.

We would not admit as a definite cause any one of these three hypotheses until more specific data can be obtained, although the most reasonable one would seem to be the second.

The case in question is that of a lady born in Mayagüez, a city on the west coast of Porto Rico. The patient is fifty-five years old, she looks unnourished although not very anemic. There is a deep expression of anxiety on her countenance, she is melancholic and complains of very painful intermittent crises accompanied by an empty feeling, localized, according to what she says toward the medial epigastric quadrant immediately under the xyphoid process and that occasionally without any prodromal symptoms spells of nervous anxiety, fear of death together with a feeling of impending danger cause her to cry, bringing about a hysterical fit which leaves her exhausted. For two years these crises have occurred at periodical intervals of two months, but at present they occur every four, six or eight days and almost always when disappearing they produce a movement of the intestines either soft or diarrheal. In the attacks which the patient has suffered at the hospital I have been unable to discover any proglottides in the excreta. It is noticeable that the physical and moral condition of the patient is declining and that the anemic state is more pronounced day after day.

On physical examination the patient shows an abnormal aspect; her body seems somewhat emaciated and this condition increases more as time goes on. When admitted to the hospital signs of anemia were not so marked but at present she is in a state of decline having an expression of anxiety and terror which is most noticeable. Her skin is wrinkled, her teeth are decayed, her heart and lungs are about normal for her age and her abdomen is soft



Bothriocephalus Latus Ovum. A Vegetable Fibre Contrasting with the Size of the Ovum is Shown.

and painful toward the epigastrium, especially if pressure is made on that region. There are no other signs of importance.

The systematic daily examination of the excreta reveals the presence of the *Bothriocephalus Latus* ova in abundant proportion but I have thus far been unable to find a single segment or proglottide. The provisional diagnosis of this case was made possible at the Municipal Hospital by means of the routinary examination of the excreta which I make on admission, an individual routinary examination which should be performed in every clinic and hospital of Porto Rico where the parasite index is so high.

The general characteristics of the eggs found in the feces of this patient are as follows: Ovoid, sometimes ellipsoidal with an operculated pole and its corresponding upper segment separated. In some of the eggs this segment has disappeared, while in others it appears lifted and curiously attached to the body of the egg like the top of a coffeepot that the maid holds open with her first finger when serving tea or coffee. The operculated egg and its top open, but not disconnected may be observed in the photomicrography. The ovum measures sixty-seven microns in the larger diameter and forty-six in the smaller one. In the picture a vegetal fibre is seen which contrasts with the size of the egg and gives a good idea of its size. In some of them a perfect oval form is noted and only when focussed carefully is it possible to see the split in the pole which causes the operculum. In this case, and on making a slight pressure upon the cover-glass the egg will open like a flower and the operculum will discharge and drain into the stercoraceous medium of the microscopic field a group of vibratory yellowish little circles which demonstrate the viability of the inner content. The color of the ovum is drab-brown and in the centre, lineal fragments are visible almost always arranged more or less at right angles with the large diameter. In others a bulk of little spheres and a thickening of the membrane may be observed toward the pole opposite the operculum.

The examination of the excreta is made systematically and in spite of the specific treatment given neither the proglottides appear nor the parasite is expelled and at the same time the eggs continue to appear.

The blood examination made on the day after the patient was admitted gave the following results:

Hemoglobine----- 80%  
 Total red-blood-cells count ----- 3,400,000

Differential count:  
 Polimorphonuclears ----- 80%  
 Small mononuclears ----- 16%  
 Large mononuclears ----- 2%  
 Eosinophiles ----- 1%  
 Transitional ----- 1%

---

Total----- 100%

Total count of white blood cells----- 13,000

Twenty-five days later another examination was made in the same way with the following results:

Hemoglobine----- 65%  
 Total red-blood-cells count ----- 2,640,000

Differential count:  
 Polimorphonuclears ----- 84%  
 Small mononuclears ----- 10%  
 Large mononuclears ----- 1%  
 Eosinophiles ----- 2%  
 Transitionals ----- 3%

---

Total----- 100%

Total count of white blood cells----- 10,500  
 Wassermann reaction ----- Negative

The patient has been in the hospital one month and twenty days and although male fern and later thymol were administered the parasite has not yet been expelled. It is hoped, however, that with oil of chenopodium better results will be obtained. The clinician, nevertheless, endeavors to demonstrate the parasite and further trials are under way.

Efforts at incubation have failed in spite of the fact that all instructions have been carefully observed as to unity of temperature (35° to 37°) in the incubator and also the excreta has been kept in water for the length of time necessary to produce results.

We understand that without the presence of the parasite or even of a proglottide it cannot be definitely stated that the egg or the morbid state from which the patient is suffering is due to the Bothriocephalus Latus, but guided, nevertheless, by the characteristics of the ovum found in the feces, there is certainly an affirmative suspicion in favor of our provisional diagnosis.