Primer Reporte de Angiostrongylus

COSTARICENSIS MORERA Y CESPEDES 1971, EN ECUADOR (*)

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RESUMEN.– Larvas del Tercer estadío de metastrongilidios fueron recuperadas de moluscos (Vaginulus sp.), recolectados en el pueblo de Santa Lucía, Ecuador, situado a más o menos 40 millas al norte de Guayaquil. Algunas de las larvas fueron inoculadas en el Laboratorio en ratas blancas y posteriormente se recuperaron Angiostrongylus costaricensis adultos. Este es el Primer reporte de este parásito en el Ecuador.

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Se ha encontrado al Angiostrongylus costaricensis Morera and Cespedes, 1971(1), como causa de Angiostrongyliasis abdo-

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minal en humanos y roedores, desde Texas en los Estados Unidos a Brasil meridional, cerca de la frontera uruguaya. Sin embargo, el parásito no ha sido reportado en Ecuador, Bolivia, Uruguay, Chile y Argentina. Recientemente, en moluscos, Vaginulus sp. recolectados cerca de Guayaquil, Ecuador, se encontraron larvas del tercer estadio similares a aquellas de A. costaricensis. Los estudios de laboratorio confirmaron el diagnóstico.

MATERIALES Y METODOS

Se recolectaron 66 babosas (Vaginulus sp.) (Fotos 1 y 2), en Santa Lucía, pueblo situado a 40 millas del norte de Guayaquil, sobre la orilla de un afluente del rio Guayas. En Guayaquil 24 de los moluscos en pools de tres fueron digeridos en pepsina en ocho embudos Baermann. Seis horas después se examinó el sedimento con un Microscopio de disección. En el sedimento de dos embudos encontramos Larvas de tercer estadío, similares a aquellas de A. costaricensis. Luego los hospederos no satisfactorios fueron desechados en Guayaquil. Treinta y dos babosas vivas fueron llevadas a Costa Rica para estudios posteriores. Aquí los moluscos fueron digeridos y colocados en embudos Baermann, separadamente; las larvas que se obtuvieron fueron inoculadas en el Laboratorio en ratas blancas (Sigmodon hispidus) de 6 semanas de edad, por medio de una sonda directamente al estómago. Cuarenta dias después las ratas fueron sacrificadas y los gusanos adultos fueron recuperados y estudiados.

RESULTADOS

De los moluscos estudiados en Costa Rica, en dos se encontró que estaban infectadas con 11 y 12 larvas del tercer estadío, respectivamente. Las ratas infectadas con estas larvas, 25 dias después de la inoculación comenzaron a presentar larvas del primer estado, pero estas fueron muy escasas. Las ratas fueron sacrificadas 40 dias después de la inoculación y se encontraron 7 y 8 gusanos adultos dentro de la arteria ileo–cecal.

Una rata contenía 5 parásitos machos y dos hembras; en la segunda rata se observó 6 parásitos machos y dos hembras (Fotos 3 y 4). Las características morfológicas demostraron que los gusanos observados eran A. costaricensis.

DISCUSION

Angiostrongiliasis abdominal humana se ha encontrado de México a Brasil (2). En consecuencia, roedores infectados naturalmente se han encontrado en los Estados Unidos, Costa Rica, Panamá y Colombia (4 y 7). Un carnivoro (Nasua narica) (8) y 2 marmotas (Saguinus mystax) (9) se han encontrado también naturalmente infectadas.

Aunque en el Ecuador fue reportado un caso humano de esta enfermedad parasitaria (Rubio comunicación personal), sin embargo estudios histopatológicos posteriores demostraron que la lesión localizada en la pared de la porción más baja del colon, no fue provocada por A. costaricensis, sino una posición errática de Paragónimus sp. No se ha encontrado infectados en Ecuador, por lo tanto este es el Primer Registro de este parásito en este país.

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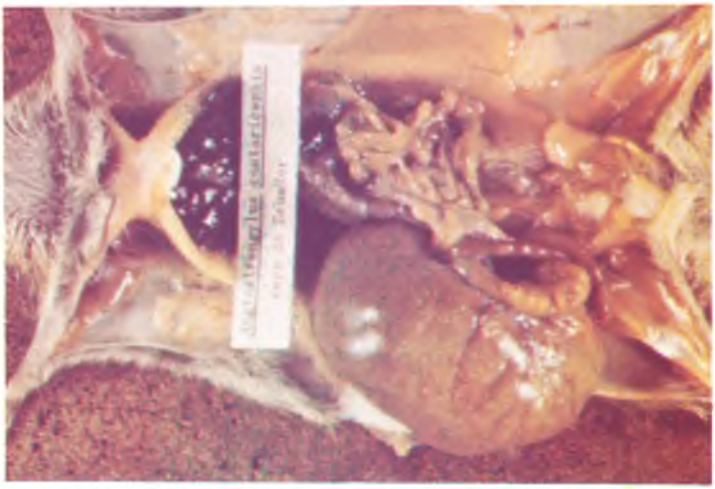
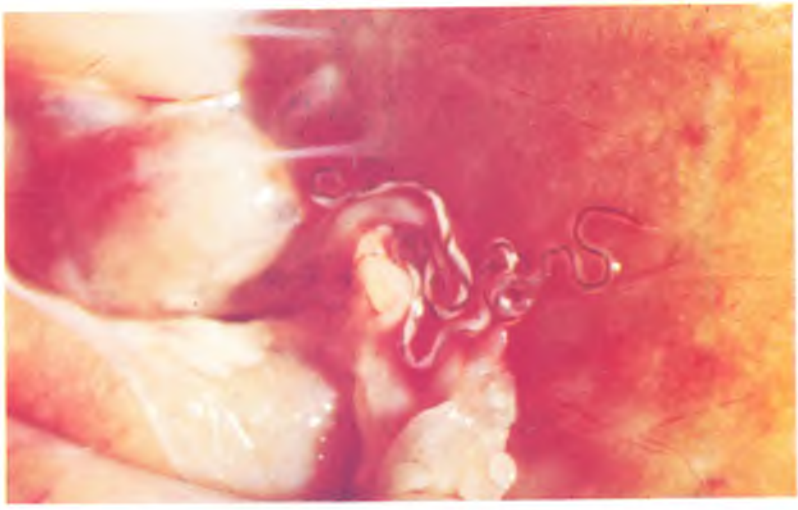
Babosas recolectadas en Santa Lucía.

Babosas infectadas en forma natural por larvas angiostrongylus.



Recuperación del parásito adulto de angiostrongylus en estudios experimentales. Cepa ecuatoriana.



Parásito adulto en mayor aumento.

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FIRST RECORD OF *ANGIOSTRONGYLUS COSTARICENSIS* MORERA AND CÉSPEDES, 1971 IN ECUADOR*

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Abstract. Third-stage metastrongyle larvae were recovered from slugs (*Vaginulus* sp.) collected in Santa Lucia, Ecuador, a town about 40 miles north of Guayaquil. Some of the larvae were inoculated into laboratory-bred cotton rats and adults of *Angiostrongylus costaricensis* were later recovered. This is the first report of this parasite in Ecuador.

Angiostrongylus costaricensis Morera and Céspedes, 1971,[1] which causes abdominal angiostrongyliasis, has been found in humans and rodents from Texas in the United States to southern Brazil near the Uruguayan border.[2] However, the parasite has not been reported from Ecuador, Bolivia, Uruguay, Chile, or Argentina. Recently, *Vaginulus* sp. slugs collected near Guayaquil, Ecuador, were found to harbor third-stage larvae similar to those of *A. costaricensis*. Further laboratory studies confirmed the diagnosis.

MATERIALS AND METHODS

Sixty-six slugs (*Vaginulus* sp.) were collected in Santa Lucia, a town about 40 miles north of Guayaquil on the edge of a tributary of the Guayas River. In Guayaquil, 24 of the slugs in pools of three were digested in pepsin in each of eight Baermann funnels. Six hours later the sediments were examined under a dissecting microscope. Third-stage larvae similar to those of *A. costaricensis* were found in the sediment from two funnels. Since no suitable host was available at that time in Guayaquil, 32 live slugs were brought to Costa Rica for further study. Here, the molluscs were digested and placed in separate Baermann funnels; the larvae obtained were inoculated by stomach tube into two 6-week-old laboratory-bred cotton rats (*Sigmodon hispidus*). Forty days later the rats were killed and adult worms were recovered for study.

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RESULTS

Of the slugs studied in Costa Rica, two were found to be infected with 11 and 12 third-stage larvae, respectively. The two rats infected with these larvae began to shed first-stage larvae 25 days after inoculation, but the larvae were very scarce. The rats were killed 40 days after inoculation, and seven and eight adult worms, respectively, were found within the ileocecal arteries. One rat contained five males and two females; in the second six males and two females were found. The morphological features of the worms[3] confirmed that they were *A. costaricensis*.

DISCUSSION

Human abdominal angiostrongyliasis has been found from Mexico to Brazil.[2] In addition, naturally infected rodents have been found in the United States, Costa Rica, Panama, and Colombia.[4–7] One carnivore (*Nasua narica*)[8] and two marmosets (*Saguinus mystax*)[9] have also been found naturally infected.

Although one human case of this parasitic disease was thought to have occurred in Ecuador (Rubio, personal communication), further histopathological studies demonstrated that the lesion localized in the wall of the lower portion of the colon was caused not by *A. costaricensis* but by erratic localization of *Paragonimus* sp. No infected mammal has been found in Ecuador; therefore, this is the first record of the parasite in that country.

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