Rev. Inst. Med. trop. São Paulo
17(6):390-393, novembro-dezembro, 1975

UDC 616.995:1

ACCIDENTAL PARASITISM OF MAN WITH TWO GORDIIDS

Durval T. de LUCENA (1) and Marcelo CAMPELO (2)

SUMMARY

An adult male complaining of severe pains in the lower abdomen was admitted to the Hospital Pedro II, Recife, Brazil. Antecedents referred consisted of this symptom, that appeared nine months early, and disturbance in micturition observed in the last three months. He referred having passed *per urethram*, one and two weeks before, two adult wiry worms one of which was brought preserved in alcohol. In the hospital he expelled alive from the urethra another adult worm which was found in his chamber-pot. Since then the symptoms subsided. Specimens consisted of one cream coloured female measuring 180 mm long and showing at posterior end two symmetrically placed lateral lobes and the dorsal one slightly longer, and a dark brownish female measuring 136 mm long; its anterior end showing dark ring distinctly visible; its posterior end has three lobes, the lateral ones of same length, and a dorsal shorter one. This last specimen was identified as *Paragordius varius* (Leidy, 1851) but the other could not be classified down to species, being considered as *Paragordius* sp.

INTRODUCTION

Records of human accidental parasitism with Gordiid Nematodes are not uncommon in medical literature. Many species had been identified in the different parts of the world from individuals eliminating them by mouth, urethra and *per anum* [1, 2, 3,6]. A true parasitism of human tissues was even observed by SAYAD et al. [5].

Cases of parasitism of the urinary system however are rarer. There are four known observations, to our knowledge, three of them summarised by SHENG & JORDAN [8]; the last one refers to a quotation by FAUST et. al. [3] of "Many very immature gordiid worms passed in the urine of a 45-year-old male Negro of Charleston, South Carolina, had presumably caused dysuria".

The present case is of a man that for three times reportedly passed *per urethram* one specimen of a wiry worm, one at each time, two of them being the subject of this paper.

Report of case

E.E.E., a white man, aged 60, a farmer residing at Gruta, Cupira, county, State of Pernambuco, Brazil. Admitted to the Hospital Pedro II, in Recife, on June 2/1969. His main complaints consisted of severe pains in the lower abdomen, which had appeared nine months before, and disturbance in micturition observed in the last three months. One month before his admission he eliminated *per urethram* one wiry worm and two weeks later another specimen, one of which was brought along preserved in alcohol. After his admission, he passed another alive worm from the urethra which was found in his chamber-pot. Since then symptoms subsided.

Clinical examination and X-ray plates of the urinary organs did not show any abnormality, but cistoscopic examination revealed a diffuse local inflammatory process.

(1) Professor-Adjunto. Faculdade de Medicina da Universidade Federal de Pernambuco, Brasil
(2) Assistente. Faculdade de Medicina da Universidade Federal de Pernambuco, Brasil

MATERIAL AND METHODS

Material on which these observations are based consists of the two last helminths eliminated: the first one was brought by the patient, preserved in alcohol, and the last one passed after his admission.

For study of the extremities we cut from each specimen a small portion somewhat anterior to the cloacal aperture and posterior to the dark ring, which were dehidrated and mounted in Canada balsam.

For study of the cuticle we cut small longitudinal pieces from the middle of the body in order to observe the ornamentation claimed to be of special importance for specific diagnosis [2]. These pieces were mounted in lactophenol solution or in distilled water under coverglass.

Description of material

1) *Paragordius varius* (Leidy, 1851)

This specimen is an adult female, 136 mm long and a maximum mid-body diameter of 0.775 mm; it is dark-brownish in colour, uniform, except at the anterior tip where a dark ring is distinctly visible with naked eye around the "calota" (Hickman), but with magnification the very tip is whitish. At the posterior end of the worm there are three expanded lobes, two of them symmetrically placed on the sides of the body — lateral lobes, of the same size, measuring 0.650 mm long and 0.200 mm wide; the dorsal lobe is shorter and narrower measuring 0.525 mm long and 0.125 mm wide. The caudal portion is narrower at about 4 mm from the posterior end, measuring 0.325 mm, increases posteriad at cloacal level to 0.425 mm, finally expanding to form the caudal lobes (Plate I, Figs. 1 and 2).

The cuticle has its surface slightly roughned, with irregular and shallow furrows encircling the aerolae which are small, polygonal, usually four cornered, sometimes triangular or pentagonal, frequently with rounded edges; pore-canals are found in most of the areolae. These areolae measure 8-10 μ in their broader diameter (Plate I, Fig. 3).

2) *Paragordius* sp

Female length 180 mm, largest diameter 0.650 mm in the middle of the body, at level of trifurcation of the lobes, 0.450 mm. Cream-whitish in colour, except tip of the anterior end that is while followed posteriad by a diffuse narrow pigmented ring brown-whitish, both rings hardly visible under microscope magnification. Posterior end club-shaped as seen with naked eye, narrower at level of the cloaca. Under microscope, trifurcation becomes apparent whowing one dorsal and two lateral lobes; these last are 0.725 mm long and 0.450 mm wide, the dorsal lobe measures 0.750 mm long and 0.110 mm wide (Plate I, Figs. 4 and 5).

The cuticle is smooth with areolae of the same pattern bearing polygonal forms as the other species, but pore-canals are less frequent and the areolae are smaller, 6-8 μ (Plate I, Fig. 6).

COMMENTS

1) The clinical case of accidental parasitism of the urinary system herein reported is apparently true. One worm was passed after the patient had been admitted to the hospital and clinical symptoms consisting of pains in the lower abdomen and dysuria disappeared after elimination of the last worm. In the case of CARVALHO [2] one worm "was expelled alive from the urethra with severe pains suffered by the child host", while "vulvovaginitis and vague pains in the lower abdomen" were the symptoms referred by the child observed by SHENG & JORDAN [8]. In any case the symptoms are mild which has led these last Authors to consider the passage *per rectum* of the Gordiid they described.

It is possible that these discreet pathological symptoms result from the small diameter of the worm, less than 1 mm, traumatic damage being negligible; however as the worm coils back and forth forming a "Gordian knot" and is endowed with vivid motility, this ought to be enough to produce the acute pains in the lower abdomen claimed by our patient, besides the other symptoms referred above.

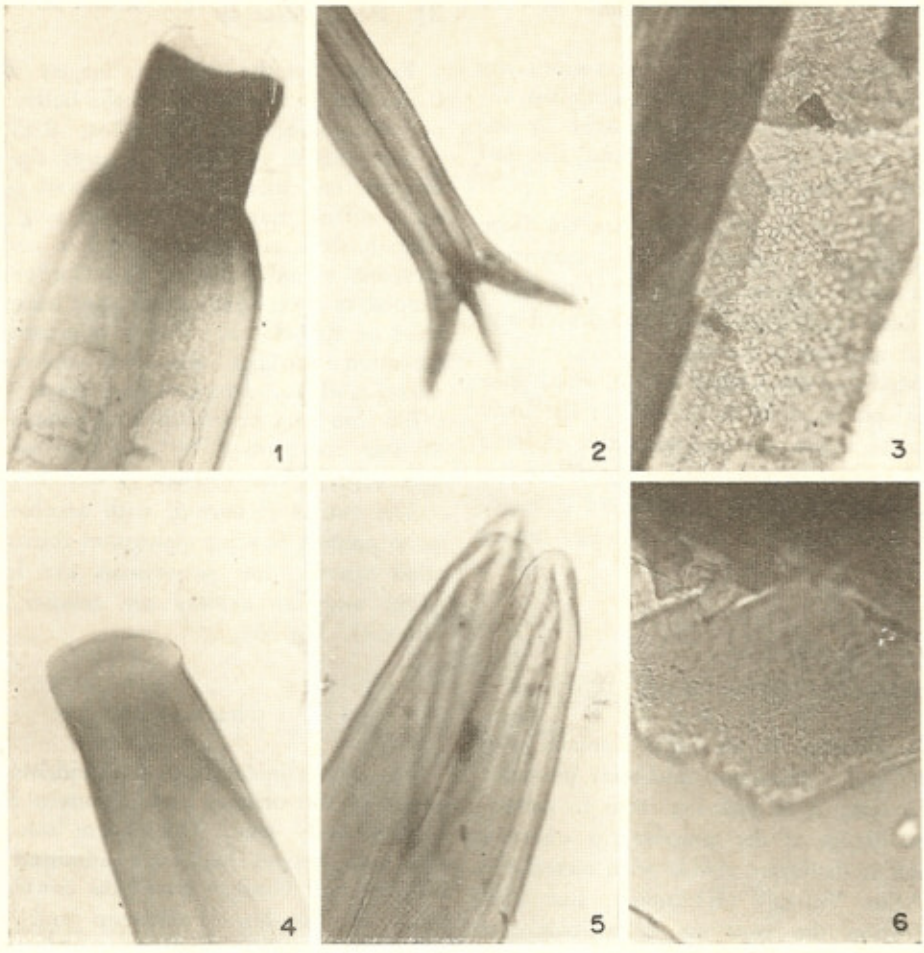

Plate I — Fig. 1) Anterior tip of *Paragordius varius*. Fig. 2) Caudal portion expanded to form the caudal lobes of *P. varius*. Fig. 3) Cuticle of *P. varius* showing areolae. Fig. 4) Anterior tip of *Paragordius* sp. Fig. 5) Caudal portion of *Paragordius* sp. Fig. 6) Cuticle of *Paragordius* sp showing areolae (Measures in the text).

2) Regarding the two species recovered, it is noteworthy the double parasitism reported from the same patient, one specimen being diagnosed as *Paragordius varius* (Leidy, 1851). Unfortunately it was not possible to determine the other worm which, certainly, belongs to the genus *Paragordius* Camerono, 1897. It is not CARVALHO'S [2] *Paragordius esavianus*, because in this Gordiid there are "numerous spine-like conical tubercles" covering the surface of the body, and "the dorsal lobe has characteristic shape, narrower in middle, constriction near base".

3) In summary, we are reporting a human case of accidental parasitism of the urinary system with *Paragordius varius* (Leidy, 1851) and *Paragordius* sp passed by the same patient.

RESUMO

Parasitismo acidental do Homem por Gordiáceos

Paciente adulto internado no Hospital Pedro II, no Recife, eliminou pela uretra três helmintos filiformes os quais lhe ocasionavam perturbação na micção e dores abdominais. Dois espécimens que chegaram às mãos dos

Autores foram identificados um como *Paragordius varius* (Leidy, 1851) e o outro como *Paragordius* sp.

REFERENCES

1. BAYLIS, H. A. — Notes on two Gordiids and a Mermithid said to have been parasitic in man. *Trans. Roy. Soc. Trop. Med. & Hyg.* **21**:203-206, 1927.

2. CARVALHO, J. C. — Studies on some Gordiacea of North and South America. *J. Parasit.* **28**:213-222, 1942.

3. FAUST, E. C.; RUSSELL, P. F. & JUNG, R. C. — *Craig And Faust's Clinical Parasitology.* 8th Edition. Philadelphia, Lea & Febiger, 1970.

4. HICKMAN, C. P. — *Biology of the Invertebrates.* Saint Louis, C. V. Mosby Co., 1967.

5. SAYAD, W. Y.; JOHNSON, V. M. & FAUST, E. C. — Human parasitation with *Gordius robustus*. *J.A.M.A.* **106**:461-462, 1936.

6. SHENG, Y. L. & JORDAN, P. — On a new Gordiid worm, *Pseudogordius tanganikae* gen. et sp. nov., parasitic in man. *Ann. Trop. Med. & Parasit.* **51**:313-316, 1957.

Recebido para publicação em 12/9/1974.