

Gastroenterología y Hepatología





LETTER TO THE EDITOR

Human angiostrongyliasis. Some clarifications regarding the case report of an imported case in Spain*

Angiostrongiliasis humana. Aclaraciones a propósito del reporte de un caso importado en España

Dear Editor,

Valerio Sallent et al.¹ reported the first case of angiostrongyliasis in Europe, caused by Angiostrongylus cantonensis, confirmed serologically. Undoubtedly, it is important to highlight the epidemiological significance of this finding and the proposed inclusion of A. cantonensis in cases of eosinophilic meningitis in patients who have recently travelled to endemic areas for this parasitic nematode, primarily Southeast Asia, the Caribbean and the islands of the Pacific Ocean. However, the scientific letter published by these authors features some errors of epidemiological significance that ought to be clarified so as not to create confusion, in general among the readers of this indexed scientific publication and in particular among medical professionals who may be involved or interested in the diagnosis and/or epidemiological analysis of this neuroinvasive parasitosis.

The genus *Angiostrongylus* has two species, and not two subspecies, that can affect humans: *A. cantonensis* and *A. costaricensis*. The biological cycle of both species is indirect or heteroxenous, specifically heteroxenous, with the necessary participation of two hosts, one definitive, in which the adult stages develop, and the other intermediate, in which the larval stages develop into the L_3 (third-stage larvae) infesting form. The intermediate hosts vary between the two species, and are often land snails in the case of *A. cantonensis* and exclusively small slugs in the case of *A. costaricensis*, but never fully aquatic snails, and never marine snails as indicated in the above-mentioned scientific letter. Among the main definitive hosts of *A. cantonensis* are the more cosmopolitan species of the genus *Rattus*, the grey

or sewer rat, *R. norvegicus*, and the black or field rat, *R. rattus*. The cotton rat, *Sigmodon hispidus*, is the definitive host for *A. costaricensis*, a species exclusively endemic to the Caribbean. In the biological cycle of both species, other hosts known as paratenic or transport hosts may also participate, which prey on the parasitised intermediate hosts and in which the L_3 infesting larva accumulates without evolving or reproducing; these hosts are often other invertebrates such as prawns and other freshwater crustaceans such as crabs (never marine), amphibians and reptiles.²

Human infestation, like that of the definitive host rodent, can occur mainly via two different, equally effective routes: 1) ingestion of raw or insufficiently cooked parasitised land snails, freshwater crustaceans or amphibians; 2) ingestion of raw vegetables, generally in salad, contaminated with the L_3 infesting larva released with the faeces and/or the slime or mucus of parasitised snails or slugs having come into contact with the vegetables.²

The above-mentioned ''case report''¹ is presented as the first serologically confirmed case of angiostrongyliasis in Europe. However, on the European continent, another 22 cases have been reported to date,^{2,3} one of them in Spain in 1998. Twenty-one of the cases were imported by patients who had travelled to one of the known endemic areas. However, one of the most recent cases was reported as autochthonous in a woman of Moroccan origin who had settled in Paris 25 years earlier, was a vegetarian and had not made any trips outside of France in the previous two years; hence, contamination of French vegetables was proposed as the source of parasitisation, taking into account the woman's eating habits and the geographical origin of the food consumed.⁴ Furthermore, 11 of the angiostrongyliasis cases reported in Europe were diagnosed serologically, some of them also in collaboration with the Swiss Tropical and Public Health Institute in Geneva, Switzerland. Therefore, the case reported by Valerio Sallent et al.¹ cannot be considered, as stated, to be the first case of A. cantonensis confirmed serologically in Europe.

To conclude, we would like to express our full agreement with the proposed inclusion of *A. cantonensis* in the diagnosis of cases of eosinophilic meningitis, with or without abdominal symptoms (40% of cases²), not only upon return from a trip to endemic areas, but also in Europe. To the French autochthonous case could be added the recent discovery of *A. cantonensis* in wildlife on the island of Mallorca,⁵ which indicates that the parasite could also be

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found in synanthropic rodents, not only on this island but also in other continental European cities.

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