Dear Sir:

Zimic and others1 evaluated the utility of a protein fraction with cathepsin L-like activity from Taenia solium in the diagnosis of human cysticercosis. To determine cross reactions, sera from infected patients with a single helminth were used. Specifically, and in addition to some nematode species, the tapeworms Hymenolepis nana, Taenia saginata, and Echinococcus granulosus, were tested. The highest specificity was reached in the Western immunoblot assay with a 98%.

Since the 90s, a third human species, Taenia asiatica, has been recognized as a cause of human taeniasis. Taenia asiatica is an important human parasite at least in eight Asian countries, with a prevalence of up to 21% and causing annual economic losses of about US$40,000,000 in those countries.2 This third species exhibits a T. saginata-like morphology, but a T. solium-like lifecycle (pigs are the intermediate hosts for T. asiatica). To date there are two relevant knowledge gaps concerning T. asiatica remain: it is still not clear whether T. asiatica causes human cysticercosis, and whether this parasite is also distributed out of Asia.

Concerning the geographic distribution of T. asiatica, the species was confused with T. saginata for more than 200 years in Asian countries,3 and the same could currently occur in the rest of the world unless molecular diagnostic methods are used because the morphology of T. asiatica’s proglottids is indistinguishable from that of T. saginata. It is well known that, for instance, Diphyllobothrium nihonkaiense originally endemic in Japan, is an emerging parasite in European countries after molecular techniques were used in its diagnosis.4 Apparently, there are no reasons why globalization should have excluded T. asiatica, because it is a tapeworm with cosmopolitan hosts with migratory movements, and it is not a sporadic parasite being more common than T. solium or T. saginata.5,6

Concerning human cysticercosis, WHO/FAO/OIE maintain that T. asiatica probably does not cause this disorder because of its molecular similarities with T. saginata, the species that does not cause it.7 However, T. saginata does not produce pig cysticercosis but T. asiatica does, because the pig and not cattle is its intermediate host despite these similarities. Therefore, humans are perfect candidates to occupy a place on the list of T. asiatica intermediate hosts.8

To resolve both questions, i.e., T. asiatica’s definitive geographic distribution and its capacity to produce human cysticercosis, it would be necessary to develop immunodiagnostic methods 100% specific for both species T. solium and T. asiatica. Currently, there is no immunologic test to distinguish T. solium from T. asiatica cysticercosis, because it has been demonstrated that T. asiatica cross-reacts with T. solium in the enzyme-linked immunoelectrotransfer blot (EITB) 100% specific for T. solium.9 Consequently, in positive results of any currently used immunologic tests (in humans or pigs) for T. solium, T. asiatica should never be excluded.

Therefore, we suggest to the authors of this interesting article and to any other scientist who is involved in the design of new species-specific immunologic tests for T. solium,10 that T. asiatica should be included in the cross-reaction studies to evaluate the true specificity of the test.

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REFERENCES