Comments on eurytrematosis in Brazil and the possibility of human infection

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Author contributions: Schwertz CI and Mendes RE wrote and revised this letter; Henker LC revised this letter.

Conflict-of-interest statement: The authors declare that there is no conflict of interest.

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Manuscript source: Unsolicited manuscript

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Received: July 7, 2016
Peer-review started: July 14, 2016
First decision: September 12, 2016
Revised: November 16, 2016
Accepted: November 16, 2016
Article in press: November 17, 2016
Published online: February 20, 2017

Abstract
The manuscript “Eurytrematosis: An emerging and neglected disease in South Brazil” discusses some aspects of Eurytrema sp. fluke as an animal pathogen and based in some aspects of the parasitism in cattle and the life cycle of Eurytrema sp. Authors suggest the possibility of human infection, once there is no research on this subject in Brazil. In human cases reported, the mechanism of infection was not disclosed, so it keeps the discussion opened. Although we focused on animal eurytrematosis, we speculated the possibility of human infection by Eurytrema sp. in Brazil, but after all, the only way to determine it, would be a study searching for people infected through coprological or serological tests.

Key words: Veterinary parasitology; Cattle; Pancreas; Eurytrema coelomaticum; Pathology

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Core tip: The possibility of human infection by flukes of the genus Eurytrema in Brazil is reviewed. Based on the life cycle of the parasite and the high prevalence of infection in cattle, the possibility is suggested, although only an investigation with coprological or parasitological tests could give some reliable information.

Schwertz CI, Henker LC, Mendes RE. Comments on eurytrematosis in Brazil and the possibility of human infection. World J Exp Med 2017; 7(1): 40-41 Available from: URL: http://www.wjgnet.com/ 2220-315X/full/v7/i1/40.htm DOI: http://dx.doi.org/10.5493/wjem.v7.i1.40

TO THE EDITOR
The manuscript “Eurytrematosis: An emerging and neglected disease in South Brazil”[1] discusses some aspects of Eurytrema sp. fluke as an animal pathogen, regarding it's prevalence, subclinical disease and possible productive losses related to parasitism. Additionally, based in some aspects of the parasitism in cattle and the life cycle of Eurytrema sp., the authors suggest the possibility of human infection. Since this work is
an editorial, the aim was to make comments on an important topic, regarding its current research status and future directions that will promote development of this subject.

We have read with interest the letter to the editor by Pinto et al[2]. Although, authors seem to have made an error of interpretation, as they say on the manuscript that eurytremiasis was suggested by Schwertz et al[1] to be a neglected and emerging human disease in Brazil. We would like to make clear that our manuscript reviews aspects about bovine’s eurytrematosis, and suggests that the disease is neglected and emerging as an important pathogen for cattle in south Brazil, since we basically work with animal diseases. Furthermore, the majority of veterinarians believe the parasite is non pathogenic, information contradicted by us[2,3]. Based on the previously cited arguments, we only suggest the possibility of human subclinical infections, there is no research on this topic in Brazil. Also, at the time of writing the manuscript[1], no molecular identification had been conducted on specimens of Eurytrema sp. in Brazil. Based on this information, we speculate the parasite present in Brazil could be E. pancreaticum, which could be also present in human beings. Nowadays, our research group has already established by molecular technics that the parasite present in south Brazil is E. coelomaticum[3], which is not described as a human pathogen in the literature.

Pinto et al[2] criticize the life cycle of Eurytrema sp. showed in our editorial, once there is no evidence of infection through the ingestion of metacercariae over the pasture. In fact, it was a mistake to suggest this mechanism of infection without scientific support; although we believe that it could be possible, based on the high prevalence of the parasitism and the questionable probability of accidental ingestion of insects such as Conocephalus spp. by 70% of cattle in some regions. The liberation of metacercariae over the pasture by live grasshoppers, in our opinion, could better justify the high prevalence of infection by Eurytrema sp. where it occurs, although there is no scientific evidence of this for now. It is inconceivable, to think that 70% of dairy cattle in the area, in 100% of farms, were infected only by the ingestion of these insects. Specially taking into account that when someone walks in the field their agility is noted. Furthermore is quite uncommon to find dead specimens available to be ingested by ruminants. We have found up to 2578 E. coelomaticum flukes in a pancreas of one cattle, and the average was 532[1,4].

According to Headley[4], the fact that E. pancreaticum has already been identified in human beings should not be ignored and more epidemiological data must be obtained and analyzed to establish the form of transmission to human beings, thereby discovering the potential of this fluke as a threat to human health. In the case reported by Ishii et al[3], it was not possible to determine how the person got infected, but the author presume that she accidentally ingested metacercariae in or from an infected grasshopper.

Pinto et al[2] defend that there is no possibility of human infection by Eurytrema sp. in Brazil. Still, the species that occurs in Brazil is Eurytrema coelomaticum, as we later established[3] and the human cases reported in the literature are due infection by Eurytrema pancreaticum[3]. In the editorial[1], we mentioned the possibility of infection but we have not focused on this aspect and we have not discussed this in detail as thoroughly as Pinto et al[2]. We have detailed the current research status and future directions of eurytrematosis in cattle. The arguments proposed by them[2] make clear that the possibility of human infection by Eurytrema sp. in Brazil is low, but after all, the only way to determine it, would be a study searching for people infected through coprological or serological tests[7].

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P- Reviewer: Langdon S, Sugawara I, Wang B S- Editor: Qu S L- Editor: A E- Editor: Lu YJ
