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In Mexico the first human case was reported in 1936 in an 11 year-old boy, since then many cases have been reported: two in 1942, ten in 1992, one in 1999, four in 2000, one complicated case in 2002 and 5 in 2006.

The diagnostic of these 24 cases were made by isolation of the parasite in 14 and by immunologic test in 10.

The parasitologic isolation were made by coproparasitologic test in 13 patients, in the 2002 case, the isolation was made by identification of the parasite directly from the gallbladder tissue, obtained by quirurgic procedure.

Last 3 years we diagnosed 3 pediatric patients by coproparasitologic studies where we observed Fasciola hepatica eggs.

In a clinical evaluation two of these patients presented unspecific symptoms, only one presented symptoms as weight loss, hepatomegaly, hepatic pain, intermittent jaundice in last 10 months.

We consider the human fasciolosis more frequent than reported in literature, by the etiologic diagnosis is not made, is important that physicians suspect this parasite; it is advisable to include a concentration coproparasitoscopic as routine test in geographic zones where the fasciolosis is an endemic disease in bovines and ovine.

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CHARACTERIZATION OF FASCIOLA HEPATICA STRAINS FROM SHEEP SUSCEPTIBLE AND RESISTANT TO ANTHELMINTICS USING MITOCHONDRIAL DNA MARKERS

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In the present study we have characterized three different sheep Fasciola hepatica strains by sequencing the cytochrome C oxidase subunit 1 (Cox1) and the NADH dehydrogenase subunit 1 (Nad1). The strains were isolated from sheep flocks with different levels of resistance after carrying out the Faecal Egg Count Reduction Test (FECRT): LS, susceptible to albendazole, triclabendazole and clorsulon; CS, resistant to the three drugs; SV resistant to albendazole and clorsulon. The characterization was done in 9-12 individual eggs collected from faeces before the treatment of sheep in the FECRT, in the case of LS and CS, and before (SV0) and after treatment with albendazole (SVA) and clorsulon (SVC) in the case of SV. A nested-PCR was carried out in each egg to amplify a 798 bp fragment of Cox1 and an 870 bp fragment of Nad1. After the analysis of the sequences we found different Single Nucleotide Polymorphisms (SNPs) in all strains, although, when the SNP was only described in one egg, this was not considered significant. Regarding Cox1, the following SNPs and frequencies were described for each strain: LS, D258A (2/12); CS, G379E (2/12) and A429S (4/11); SV0, A457V (2/12); SVA, A457V (4/12); SVC, A457V (2/9) and Y264N (2/9). In relation to Nad1, we found the following SNPs: CS, P45L (2/12); SVA, T271N (2/12) and R274 (2/12); SVC, F27L (2/12). We can conclude that the genetic variability in Cox1 is higher than in Nad1, where no SNP was described in LS or SV0. It is worth noting that in Cox1 the SNPs with the highest frequencies were shown in the resistant isolates, CS and SVA.

Moreover, the SNP A457V was described before and after treatment in SV, although its frequency was increased after the administration of albendazole. Therefore, a higher genetic variability and a higher susceptibility of the parasite to adapt to the selection pressure, exerted by the anthelmintic drug, result in greater likelihood of the anthelmintic resistance phenomenon taking place.

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